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EDITORIAL.

AN AUSTRIAN SURGEON IN AMERICA.

In the voluminous book which some future historian will see fit to publish on the subject of the effect of foreign criticisms on our sensibilities, the interesting letters of Dr. Paul Clairmont, "Surgical Impressions in America" (Chirurgische Eindrücke aus Nordamerika*), should have the place of honor; for to his task he has brought a mind unhampered by few, if any, national prejudices, and a judgment that makes possible the correct appreciation of the ethnic traits which have been responsible for the growth of American surgery. To divorce race characteristics from progress in any branch of science would be an oversight, unworthy a philosopher who wishes to get at the root of the why and wherefore of a sociologic manifestation; hence, we ought not to quarrel with Dr. Clairmont in his desire for this sort of illumination, but rather encourage it, since, unlike most of our foreign critics, he refuses to allow minor defects in our social economy to blind him to the aims and high purposes of an important branch of science necessarily silted up to some extent in the practical and somewhat "dreary sands of modern life."

The reason why it is often the case that a pure intelligence, when transported to this country, allows itself to drift into fulsome praise or scathing denunciation, is easy of comprehension. On the one hand, the junketings attending a stranger's sojourn may be of so sweeping a nature that mental equipoise is swamped; while on the other, even the highest intelligence is not proof against an egoistic measure of its own fame, when fed by the praises of a clique of admiring under-graduates in the foreign university where it is held in high esteem. Now though Dr. Clairmont has had the same environment that has been part of the life of the majority of our foreign medical critics—he is Privat-Dozent and Assistant at the I. Surgical Clinic, University of Vienna—he evinces none of the

*Wiener Klinische Wochenschrift, 23, 30 Juli, 6 August, 1908.

small, but very objectionable, conceits arising from adulation falling on too fertile soil; from which we infer that either his modesty plus his good sense stood him in good stead, even when the balance turned towards Austrian surgical methods, or that the impress gained during his visit was sufficiently deep to be educative on lines unappreciated in Austria.

That Dr. Clairmont's countrymen will profit by reading his truthful letters, is a foregone conclusion; for he brings before them not only a detailed account of our most modern hospitals, but describes the operative methods of such men as the Mayos, Cushing, Murphy, Deaver, Young and Halstead. And his descriptions are not of the perfunctory sort, but are informed with the true spirit of the impressionable and sympathetic onlooker who, while noting each step in an operation, digests enough of the operator's manner to profit by it in case he feels that perfection has not been reached by methods to which his schooling and experience have inured him. We feel this to be the case, for even though at times the sweep of our methods astound him, his mentality soon gets back its accustomed poise, and with a grace that is not unworthy of imitation by some of our own countrymen, whose boorishness when abroad is proverbial, he admits their superiority to what he has seen elsewhere. But in regard to other matters he is less willing to yield the palm—our decided lack of unanimity as to when an operation for appendicitis can be performed with the least danger to the patient; our deplorable ignorance of immediate prosthesis after resection or extirpation of the lower jaw. But even when speaking of these defects he is never arrogant nor severely critical; only astonished that in a country where so much in surgery has been achieved, there should be one lacuna to invite criticism.

After years of patient endurance to the jibes and sneers of visiting foreigners, who have reciprocated the hospitality extended them by literary insolences on our shortcomings, whether social or scientific, it means much to us to read these letters. For, aside from their high appreciation of our surgical work, their refinement of literary style and the kindliness that breathes from every line, they are compact of all those socio-economic virtues which, on account of nearness, unfortunately escape us in our estimate of ourselves. But that they are of importance in any correct estimate of our position as an intellectual force in the international program, a foreigner of the stamp of the author of "Surgical Impressions in America" can best appreciate; for without them, we fear, the present achievements of American surgery would not be the outstanding feature, which just and unbiased critics admit it to be when brought into close juxtaposition with the high lights of its supreme efforts.

MR. RUDYARD KIPLING AND THE MEDICAL PROFESSION.

Assuredly the author of the "Jungle Books" reverences truth above all things for his latest public utterance—his address at the opening session of the Middlesex Hospital—is so strong a plea in the service of truth that a quick understanding, on the part of all intelligent laymen, of the Leit-motifs of modern medicine can not but be effected. The charge generally brought against the man of literary parts, that misconception always results when he endeavors an exposition of a scientific subject, because of his accustomed indulgence in wealth of diction and surplus of imagery, must be withheld this time, for, though there might have been temptations to romance a bit on so interesting and fascinating a subject as the modern phase of the science of medicine, the author saw fit to bridle his imagination in so skilful a manner that mere wording gave way to point and precision. Rather reluctantly but not grudgingly we must admit that of all the October speeches delivered at the English medical schools and hospitals—and the names of Allbutt, Slater, Broadbent and Sainsbury, are not especially insignificant—the arguments Mr. Kipling advanced will do more to dissipate the Cimmerian darkness in which so many of his fellowmen live, for the reason that his vigorous and concise words, so characteristic of the best points in the literary trajectory with which he has made us familiar in the past, will be reprinted in the lay press; thus accomplishing a much desired purpose. For reasons only too obvious, the highest thoughts in the writings, and even in the speeches, of the purely scientific surgeon and physician, are rarely reproduced in the daily press, and though this ought not to be a subject for congratulation, since some, if not all of them, are worthy of that sort of dissemination, still when we remember how often scientific words and expressions are garbled by attempts at popularization, we must feel grateful when no notice whatever is taken of them. Now since it is wellnigh impossible to convince experimental researchers of the necessity of bringing their matter more directly before the public, by using simplicity of language so that the popular ear may be enlisted, it is with a sense of deep gratitude that we read the pronouncements, on the subject of experimental research, by one who has the judgment to liberate himself from many technicalities, and, without any apparent travail, defines the distinct and positive progress of the medical science of to-day.

A scientific idea, or the fruition resulting from its application, with all its benefits, should not abide long in its own house; but even though the fulfillment of its purpose is not accomplished, enough of it should be allowed to enter the universal life to make men who think, aware of the undercurrents agitating the so-called dead level of modern

medical thought. Universality as an axiom governing the tendencies of modern thought, should include the best dictates emanating from the province of what one might call higher medicine, just as it already commands and receives the best pertaining to philosophy, metaphysics and religion. So soon as our experimental researchers shall recognize the worth of universality as a power for good, in so far as it does not mean the popularization and debasement of scientific thought, there will be none of the many misunderstandings and misconceptions which obtain to-day, but a generous appreciation and an elevation to the high plane on which now rest, in the public mind, the best fruits of philosophic and literary thought. Then and then only will the public utterances of a recognized experimental researcher have the weight and value of the unfettered literary talent of a Rudyard Kipling.

THE TRAINED NURSE: HER PERFECTIONS AND IMPERFECTIONS.

It does not require remarkable alertness of perception to recognize that in the various callings of life the material which goes to swell the ranks has more than an iota that invites criticism. That the fault always lies in the quality of the human stuff and not with the educational perversions which are unwittingly bestowed and encouraged, is a declaration of a bias which should at once be deprecated, for it is open to the day for him who has but a modicum of perspicacity, that when the wrong sort of the human genus is allowed to bask in the full rays of an education that is somewhat darkened by defects, it would have to be more than human to have the capability to separate the chaff from the grain. Now of all the professions that have come under our critical eye for illumination of hitherto unnoticed evils, the teaching of the art of nursing and its malformations, as evidenced by too many nurses, are not troubles of the imagination, but real troubles that have stiffened us against the persuasive words of those whose optimism allures them into seeing only the obverse side of the picture.

Imprimis, it would be well to remark here, that by far the greater blame for the travestied sort of education nurses are supposed to profit by to-day, falls to the share both of the doctors who are directly their teachers and the doctors under whom they work after completing their course. In respect of the former who are their real educational guides, their trainers, their censors, has it ever occurred to many of us how ridiculous are certain parts of the nurses' curricula, supposed to appeal with special relish to the palate of a comparatively untutored and unformed mind? The usual sort of young woman who enters a school

for nurses has before her enough stumbling-blocks, due to disadvantages resulting from a crippled early education, in the mastery of her new environment—the scientific atmosphere with its multitudinous technicalities—to engage her attention with profit for some time, but so decidedly inappreciative of the psychology of education are her instructors that after a month's probation a compulsory plunge into abstruse subjects is demanded.

What mind—and surely no one will say that a nurse's mentality is of the same fibre as that of the average medical student—can be affected otherwise than by a sad confusion that has the dire effects of destroying, immediately or even after there is more mental equipoise, the small growth of ideas which a desultory education has bestowed, and putting in their place a conglomerate mass of antisepsis, hygiene, anatomy, physiology, therapeutics and pathology? Graft, we say, only the bewildering technicalities of these many studies on a substratum of an imperfect acquaintance with the tortuosities of English grammar and English composition, and what is there but a deplorable wandering in a wilderness with sheer waste of time as the undesirable guiding star? And later on when the nurse's mind finds itself, so to speak, and what her mentors construe into "a splendid working knowledge" of all the studies, which really pertain to a medical student's curriculum, are hers by right of acquirement and a mistaken idea of mental digestion—have we physiological, pathological laboratories and a special dissecting room for nurses?—the picture evolved, with very few exceptions, is that of an egoistic young woman who deludes herself into thinking she must be quite superior because of a veneer of knowledge that unmistakably places her, in her judgment, beyond the menial duties pertaining to the little indecencies of the sickroom—the care of the bedpan, the insertion of the male catheter, and finally the washing of that part of the soiled linen which should be antiseptically clean, when, as often occurs, there are no servants in the household.

Having tried the scientific training of nurses with results that have invited mild and harsh criticisms, according to the temper of the critic, would it be inopportune, we ask, to suggest that just as the modern currents of thought are affecting to-day the attitude of the doctor towards his patient, a similar appreciation of the tendencies should be exacted from his medical complement—the nurse? Less knowledge of anatomy, of physiology, of pathology, would of course mean less of the sort of education which may have its value in special halls of learning, but which is only an unnecessary encumbrance on the nurse in the sickroom; for if it is called into play there, it is but a source of unpopularity to her, inasmuch as no patient's nerves have ever been soothed by scientific small talk, and

very few doctors consider such conversation other than a foolish vaporing of knowledge, the serious interpretation of which rightly belongs to them. Instead of striving to be an educated entity in the sickroom, a nurse should cultivate the graces of culture; for its advantages over mere education are many, in that real culture does not feel itself abased or demeaned in face of what is often demanded, and at present considered menial by its lowly sister, education. But the culture which we deem a necessary factor in a nurse's successful career, should not be dependent on those accidental surroundings which make for this quality in a nurse who has sufficient acumen, but be part of her curriculum; a necessary part, indeed, for it would include all sorts and conditions of things somewhat neglected now—the correct modulation of the voice, an appreciation of good literature and how to read in the sickroom, and a complete knowledge of the art of letterwriting. Again, the culinary art, so sadly neglected to-day in what should constitute a nurse's education, might come in for its proper share of attention; for wiser men than we have often been irritated by a nurse's dense ignorance of the subject. Of course, these are all material things that surely can not hold their own against the superior claims of anatomy and physiology, but in the present arrangement of our mundane affairs, who can deny their worth and value?

INVALID COOKERY.

A subject which should be of paramount interest to doctors is the matter of sick-room cookery. With a negligence that must be due to indifference, we have relegated all culinary affairs, as they pertain to the sick, to the incompetents who happen to be within easy reach when the subject of what should be eaten by the patient is agitated; and with few instructions, principally about what ought to be avoided, the matter is closed so far as the medical man is concerned. What the patient suffers by reason of ill-prepared mixtures or because of an idiosyncracy, is overshadowed by more important matters—the signs and symptoms of disease, the palatability of medicaments, the multiplicity of things which go to make up the sick-room atmosphere—and only a decided jolt to our composure, following a bellicose attitude on the part of the patient, arouses us at times to the need of some sort of improvement in the culinary phase of the case. But how to get out of the dilemma when no *cordon bleu* comes to our rescue in the homes of the well-to-do, or when economic conditions among the poor preclude even a poor counterfeit of what our limited intelligence conceives as a clever substitute, has been

the source of considerable discomfort to the medical practitioner of somewhat heightened sensibilities. In this matter, as in many others which our sense of patriotism will not allow us to admit, Germany sets an excellent example; for in Mrs. Alfred Sidgwick's recent work on "Home Life in Germany," we read that "even the young doctors of Berlin learn cooking at the *Lette-Haus*. Special classes for invalid cookery are held on their behalf, and are said to be popular and extremely useful. Certainly doctors whose work is amongst the poor or in country places must often wish they understood something about the preparation of food." And not only in this book, but in foreign medical journals and literary magazines has there been more than passing mention of an undertaking that again shows unmistakably how decidedly advanced German thought is when the welfare of the German people is at stake.

The practicability of instructing doctors in cooking having been successfully tested in an older country than ours, the thought which occurs to us is, that imitation would be effective in bringing about a betterment of some of the undesirable inevitables, which a rather primitive regard for the actual preparation of our sick-room dietary has now made possible. By placing the responsibility of this sort of cookery in the hands of competents, such as doctors would undoubtedly be after attending lessons, the conflicting opinions, which now occur directly after the doctor's visit, as to whether or not his rather off-hand remarks in regard to what the patient ought to eat—he overlooks completely the manner of preparation—should be taken seriously, would no longer obtain. Again what patient has not had his equilibrium upset for hours by distasteful dishes, thrust upon him by some member of the family who was ignorant of the extreme sensibility of national idiosyncracies, when irritated by crudities emanating from the usual German, Irish or Swedish cook? For it should not be whispered, but spoken aloud, that the matter of nationalism, as it pertains to sick-room dietary, should not be the neglected quantity that it is to-day, but be encouraged by serious endeavors on the part of all broadminded physicians to the exalted place to which it rightly belongs. How to make it an important factor has long been a problem to the few who have occasionally given it a thought. But now that the feasibility of instructing doctors in the art of sick-room cookery has been firmly established in so progressive a country as Germany, the lesson which our perspicacity and acumen should acquire, should be not only the lesson which would make for a decided improvement in the preparation of food, but the greater one, that the nationalism of the patient ought not to be overlooked when dietetics of the sick-room are discussed.

OPINION AND CRITICISM.

LOMBROSO AS SEEN BY A COUNTRYMAN.

In the *Century Magazine* for October there was published a pen portrait of the well-known Italian criminologist, Lombroso, which has all the *verve* one generally associates with the emotionalism peculiar to the writers of Italian birth, for the author, Guglielmo Ferrero, writes a panegyric whose headlong sweep dashes commonsense against the wall until there is nothing left of the quality which the sane long for most, in estimating the rank of a scientist. Not content to pronounce his hero a psychologist, a physiologist, a sociologist, a criminologist, Ferrero calls him prophet and pessimist. In most countries, we take it, pessimism does not take front rank, but here we learn that in its association with Lombroso's superlative qualities, it has distinctions denied its lesser brother, optimism; and makes of its possessor a genius of the highest mark. Just what Lombroso's super-amount of pessimism has done for him or for his reputation as a criminologist, future generations will have to decide; but to-day we have the spectacle of misguided enthusiasm, amounting almost to frenzy, dragging the most honored names in literature, art and science through the dust, in a vain attempt to show that so great a man as Galileo "was a slanderer and a bad, hard-hearted man —an unscrupulous thief of discoveries made by his pupils, and that Dante was a criminal." Ferrero rushes all sorts of names across his pages to substantiate his wayward and eccentric contentions—Spinoza, Heine, Marx, Lassalle, Nordau—for ethnic and religious reasons, we imagine; but to a nation of thick-headed blunderheads, such as most Americans are supposed to be by reason of their refusal to fall prostrate before visionary theories, it will be difficult to grasp even a distant connection between the modern master of lyricism, Heine, or the prototype of modern Social-Democracy, Lassalle, and the originator of the theory of degeneracy. Again to ask the ordinary man to abide by the opinion that Lombroso's philosophy of life is one of ethics, is a derogatory estimate of the reader's mental horizon.

In contradistinction to this unwise lauding of one whose star is already slightly in the descendent, it would be well for those who are interested in the subject of degeneration, to read the recently published book "Asymmetry of the Face,"* by Dr. Richard Liebreich; for it is so clearly and calmly written that conviction of the worth of the theories advanced, must enter the reader's mind directly a careful perusal is ef-

*L'Asymétrie de la Figure. Paris: Masson & Cie. 1908.

fected. The pronouncement that the new work carries is that asymmetry of the face is not a stigma indicating degeneration, but a manifestation so general that it does not require deep observation to see it in all faces. Hence, why dwell on a matter that is prevalent enough to prevent its being classed with physical abnormalities? To prove his contention, Dr. Liebreich has examined many thousand skulls, belonging to all times and all races; and his conclusions are that asymmetry of the face is in no way a mark of degeneracy, but a decidedly normal indication to be observed even in the period of the beginning of the human race; among civilized and uncivilized peoples; and furthermore, in the same proportion in all races. In explanation of these statements, Liebreich asserts that asymmetry is the result of pressure exercised by the maternal pelvis on the child's face during the last period of pregnancy. In the usual position of the child, the left side of the face would show the effects, while in the position that is directly opposite, and which rarely occurs, the right would bear the mark. Where the position of the head is upwards, and no pressure is possible, the author thinks that heredity is responsible, though here it should not be forgotten, the asymmetry is less pronounced.

LUKE, THE PHYSICIAN.

The Higher Criticism of the New Testament, which has done so much in the past few years to upset our most cherished ideas by surrounding us with hissing incredulity, has received in the recently published "Apostelgeschichte" (The Book of Acts)* a sad blow, inasmuch as the theologian, whom the enthusiastic advocates of iconoclastic onslaughts regarded as their champion, has declared for conservatism and reinstated the physician, Luke, as author both of the Acts and the Third Gospel. That Professor Harnack's reputation as a searching and analytic biblical critic can stand the test of any of the fulminations that might emanate from his bitterest opponents, because of his decisive opinion, should be a source of some pleasure to all physicians, for with the medical welkin ringing with thunderous noises about the necessity of introducing the study of psychotherapeutics in our medical schools, the triumph of the rehabilitation of St. Luke can not be regarded but as a matter of great moment. For Harnack's condition of mind, influenced by the teachings of psychotherapeutics, puts quite a new interpretation on the miracles recorded; and what with the medical phraseology employed and the many indications of medical interest to be found in the Acts, we

*Die Apostelgeschichte. By Adolf Harnack. Leipzig: J. C. Hinrichs

have not only Luke, the "Beloved Physician," restored to the plane on which he securely rested before the foaming phrase of the votaries of diletant biblical study unseated him, but an ancient expression of the latest phase in the neurological department of medical science—instructor in psychotherapeutics.

The awakening of the medical profession to the necessity of stamping on the subject of psychotherapeutics the seal of legitimacy, augurs well for its future; and though our pachydermatous conservatism has caused in this instance, as in many others too numerous to mention, the possibility of its perverted dissemination at the hands of innumerable Christian Scientists, Mind Healers and Osteopaths, there should be considerable rejoicing among us that recognition of the right sort is at last being meted out to it. Tufts College Medical School is already in the van with a course to be introduced this year, and no doubt other medical schools will ere long make of the pariah a something that, by its systemization and reasoned application in widening circles, will not fail of appeal to the ever-growing class of neurotics who now are compelled to resort to the practicers of the pseudo sciences.

LITERARY NOTES.

A book that should prove interesting alike to the general practitioner and the specialist is Dr. Paul Voivenel's "Literature and Insanity" (Littérature et folie, étude anatomo-pathologique du génie littéraire. Paris: Felix Alcan, 1908). The author essays to establish to what degree a literary success is due to good physical health, heredity, degeneration, or to pronounced insanity. While there are many who will not agree that mental instability is sometimes indispensable to the production of a great literary work, there is enough of interest in this moot question to engage the attention of the serious reader. The anatomical relation between the speech center and the sexual sense is shown; also their physiological relation and the influence of one on the other. As a result of the hypertrophied brain in the literary man, there is mental instability, and this M. Voivenel dwells upon at length, supporting his contentions with many examples drawn from literary sources throughout the world. Here are some of his conclusions: The language zones occupy in the brain considerable space. As a necessity for the art of writing there must be intellectual centers situated in the prefrontal regions and centers of special memory for words. If both are well developed, we have writers of the first order, who are at the same time savants and poets; if, on the other hand, the language zone is the only

one developed, we have great writers, affluent of phrase but devoid of ideas, as instanced in Victor Hugo. A decided development in the language zones coincides with an aphasia and an anemia of other cerebral regions; in other words, there is mental instability. Again, physiology confirms this idea of instability, because, as is known, physiological teachings demonstrate that in the normal state there is a functional instability in each of the four centers for special memory; hence, a slight disturbance in their relations to each other modifies the mind. And here M. Voivenel draws quite remarkable conclusions based on observations of the genius of the principal European writers: Russian, German, English and French. Russian thought is poor and slightly hysterical; it oscillates between depression and excitation. It is unstable, and as examples he cites, Tolstoi, Gogol, Gorky, Garchine, Dostoyevsky; the exceptions being Tourgueniew, Roudine, Novodvorow. If the Russian is a mystic, the German is the dreamer *par excellence*. His poetry and science, his poetry and metaphysics, illustrate a combination of contemplative mind and brutal force. Such are the associations we find in Gœthe, Heinrich Heine, Luther and Nietzsche.

In Mr. Havelock Ellis's "The Soul of Spain," we have a new interpretation of a much misunderstood country. That preconceptions in regard to a people, whose ethnologic and anthropologic characteristics differ from ours, are a mistake, has been shown before in authoritative books descriptive of certain foreign countries which do not happen to lie in the beaten path of travel. But of all countries that have suffered most on account of a limited knowledge founded on hearsay or superficially-conceived magazine articles, Spain easily takes first rank. That Mr. Ellis would approach a subject of such psychological importance as the correct reading of Spanish character in his own individualistic way, his former books, so expressive of mental vigor in getting at truths, are a preparation that mean much to the intelligent reader. But even without knowledge of them, and though the lengths to which he carries psychology may not be to our way of thinking, we can not but applaud him for sweeping away the foolish ideas of Spanish character which have come to us from Merimée's erotic novel and Bizet's colorful opera. Here we have for the first time the mind of Spain discussed in all seriousness, so that the reader soon grasps the moment of its purport; moreover, though temperament and customs have affected it in making it racy of the soil, its intellectuality does not suffer. To those who are interested in anthropology and psychology, as modern agents in arriving at a just estimate of nationality and character, no better illustration need be cited than Mr. Ellis's new work.

The *Normandie médicale* has recently published some interesting details about St. Agatha, whose wooden statue, dating from the XVIth century, has been offered to the museum of the medical school at Rouen. The statue pictures St. Agatha carrying a plate on which rests her breast, prayers to which are supposed to benefit all those afflicted with disease of the mammary glands. St. Agatha flourished at Catane in the third century. Her beauty having been remarked by the Roman governor, Quintien, persecutions followed as a result of her obstinacy to accede to his wishes; and as was usual in those delightful times, the only remedy then highly thought of to correct stubborness was called into play—the red-hot iron. With this her body was seared, and the punishment not being considered complete, "she was further tortured by having her breasts beaten after they were burned." Agatha was interred at Catane, and soon after miracles took place around her sarcophagus. What these miracles were is easy enough to understand, and even to-day patients suffering from diseases of the breasts believe that supplications addressed to one who had undergone so much in the good cause of virtue, must surely exercise a beneficent influence on the afflicted. Not only was this saint petitioned to help in the diseases mentioned, but she has the further distinction of being the patroness of nurses. Towards the beginning of 1040 the reliquary of St. Agatha was seized by Byzantine invaders and carried off to Constantinople. The reason for this procedure was that the godless regarded the treasure as a preventive against thunder and lightning, storms and fires. In 1226, so the legend runs, Agatha appeared before one of the emperor's officers and ordered him to return her body to Catane. This was done, but on the way home it happened that at Tarente, two officers opened the reliquary and took the relics, one by one, out of the coffin; then after satisfying their curiosity they returned all but the breast. After their departure, a woman with a child at her breast stopped near where the forgotten relic lay, and fell asleep. The child, with rare prescience, crawled along the ground only to get its reward, for upon encountering the saintly breast, it seized the nipple with rare gusto and drew forth milk of incomparable sweetness. The bishop, hearing of the miracle, came to the scene, with great processional pomp, and it was all he could do to separate the young glutton from its unusual repast.

ORIGINAL ARTICLES.

THE CAUSE OF FAILURE IN THE TREATMENT OF TUBERCULOSIS.

By F. M. Pottenger, A. M., M. D., of Monrovia, California.

Following some serious operation, it is frequently remarked in a spirit of jest that the operation was successful, but the patient died. This remark bears with it more than what is grasped at first hearing. It bears with it an apology; the surgeon has done his work well but in spite of that the life has been sacrificed. If we inquire the reason for this it is often found to be that the operation which would have saved the life had it been done early, was delayed until it was too late. Either the diagnosis was not made early or there was a failure on the part of some one to have the proper remedial measures applied after the diagnosis was made, at the time when success was attainable.

The physician who treats tuberculosis often finds himself in the same position as the surgeon mentioned above. He has done his work well. He has applied the measures which are recognized as sufficient to bring about a cure of the disease, in an intelligent and painstaking way; yet, the patient has not been cured. It is my purpose in this paper to discuss the reasons for this failure. It is not my purpose to blame anyone for those who have already died; but, by inquiring why they died, lives may be saved in the future.

We may be better able to understand the causes which produce our failures if we first discuss the causes which contribute to a cure in tuberculosis.

I would like to preface my remarks on this subject with the statement that there is a time in the history of nearly every case of tuberculosis when it is curable. This may seem to some almost revolutionary and too absurd for credence, nevertheless, facts will warrant the statement. If true, why do we allow so many people to die of this disease? The answer is, because of a total failure or a delay in applying the proper remedial measures.

It is the same delay that causes death in diphtheria, appendicitis, and other serious though curable diseases. Delay is responsible for much of the suffering and much of the cost attendant upon this disease, also for most of the deaths caused by it. "Procrastination is the thief of time;" it is the murderer of the tuberculous patient.

Primarily, the question of cure in tuberculosis is a question of numbers and virulency of the infecting micro-organisms. We have every reason for believing that great numbers of tubercle bacilli as well as other micro-organisms are frequently taken into the human body without producing disease. We have also equal reason for believing that large quantities of bacilli will produce tuberculosis in any human being.

These conclusions are sustained by the mass of evidence produced in the laboratories during the past few years. It has been shown that some of the protective substances (opsonins) are partially or wholly unable to act upon very virulent micro-organisms; hence a high degree of virulency makes it easy for them to cause an infection. It has also been shown that, when protective substances (opsonins) are called upon in defense of the organism, they are used up, and caused to disappear from the body fluids; therefore it stands to reason that great numbers of bacilli might for the time use up the protective substances and still exist in such numbers as to cause an infection.

We must understand an infection then as being a condition on the part of the body wherein the invading micro-organisms have at least for the time being kept the protective substances in abeyance.

This deficiency of protective substances may only be temporary and with their restoration may come a destruction of the focus of infection and a cure of the disease. Doubtless this happens very often without any visible signs of the infection remaining; however, frequently the infection becomes more pronounced and the focus becomes larger, so as to demand help upon the part of the patient in order to bring about a healing.

At this juncture let us consider another important factor which goes hand in hand with the numbers and virulence of the bacilli, I refer to the size of the focus.

The primary infection in tuberculosis never kills the patient. It is only after the bacilli have invaded other tissues and after other pathological changes have occurred that life is endangered. It is the tendency of the disease to spread that makes it so serious.

Tuberculosis, when it has once infected the body spreads in several ways; first, through the adjacent lymph spaces; second, through the blood vessels which pass through the focus; and third, by way of the eliminative channels as the bronchi and ureters.

The greater the focus the greater is the opportunity of the disease spreading, which can be readily seen when we compare an area the size of a marble with an area as large as one's fist or one occupying an entire lobe of a lung. Conceiving of the bacilli as making more or less constant attempts to escape from the focus of infection as just mentioned it can readily be seen that there must be infinitely more bacilli escaping from a very large focus than from a small one; and as the bacilli are destroyed and prevented from causing infection by the protective bodies found in the body fluids, and as they in turn use up the

protective bodies which are found in the body fluids, it stands as a self evident fact that the larger the focus the greater the demand on the antibodies and the greater the danger of infection becoming scattered.

Then, if we consider other important facts, viz.: that the larger the focus the greater the amount of toxins thrown out into the vessels and the greater the focus the greater the mechanical disturbances, especially on the part of the respiratory and circulatory systems, then we can see further reason why the early lesion is comparatively easy to cure, and why the advanced lesion is cured with great difficulty.

In 1856, Herman Brehmer, to whose patience and perseverance modern phthisio-therapy owes much of its force, wrote his thesis for final degree upon: "Tuberculosis primis in stadiis semper curabilis." This new doctrine of early tuberculosis being always curable was so at variance with the teachings of the time that it was not considered seriously. It has taken fifty years to prove that Brehmer was right. To-day, however, the intelligent treatment of tuberculosis, carried out under the most favorable conditions when the disease is in its incipiency will restore most patients to health.

Why, then, is this useless sacrifice of life to tuberculosis allowed to go on? Why are one hundred and fifty thousand people in the United States allowed to die annually of a disease that will yield to so large a degree to modern methods of treatment?

A careful analysis of several hundred clinical histories of tuberculous patients shows that the cause of the mortality in tuberculosis from the clinical standpoint is due to:

First, an apparent failure upon the part of both medical men and laymen to appreciate the fact that tuberculosis is curable, and an especial failure to appreciate the comparative ease with which the early cases are cured.

Second, a failure upon the part of both medical men and laymen to appreciate and recognize the signs and symptoms which accompany early tuberculosis.

Third, a failure upon the part of both medical men and laymen to appreciate the necessity of prompt energetic treatment as soon as a diagnosis can be made.

It would seem that with the great mass of clinical evidence at hand and especially the reports of sanatoria which show many thousand people who have suffered from tuberculosis to have regained their health, and with the post mortem evidence which shows healed lesions in so large a proportion of subjects, that there should be no excuse for the members of the medical profession doubting its curability. Yet it is not uncommon to hear medical men say that they do not remember a single case of tuberculosis in their practice that regained health. This statement might be made with equal truth of many other diseases. Many men have never corrected errors of refraction, never treated skin diseases and never opened an abdomen, yet their experience does not count at all against

the fact that these things are successfully done every day. I wish to emphasize the fact, that there is a time in the history of nearly every case of tuberculosis when it will yield to intelligent treatment; that it does not, is due to the fact that the proper remedies are not applied in the proper manner at the proper time.

The proper time for treating tuberculosis is as soon as the diagnosis *can* be made. I do not mean as soon as it *is* made, for the diagnosis of tuberculosis is not made in the great majority of cases until the disease is well advanced, until the most favorable time for its treatment has passed.

The early signs and symptoms of tuberculosis are not as distinctive as are the signs and symptoms accompanying many of the other diseases; yet, as a rule, they are sufficiently plain to him who is conversant with them. The symptoms produced by a small tuberculous focus are as a rule very slight, and are either unheeded by the patient or unrecognized by the physician. Too often the local signs are well marked and the constitutional symptoms unmistakable before the diagnosis is made. This nearly always means an advanced lesion, one which is more difficult and much less certain of cure.

While early diagnosis is profiting at the hands of both physician and layman by the general distribution of knowledge attendant upon the present world-wide movement for the prevention of tuberculosis, yet those of us who have most to do with the treating of this disease are amazed at the manner in which the disease is overlooked in its early stage. Neither physician nor layman seems to recognize the early signs; both seem to confuse them with many indefinite and obscure conditions. It seems to me that much of the fault on the part of the physician lies in the prevalent, lazy habit of treating symptoms and failing to make a diagnosis. The tuberculous patient suffers from malaise; he is given a tonic with the purpose of building him up. His tuberculosis is not suspected and left untreated. He suffers from frequent and protracted colds; he is given a spray or some favorite cold remedy; his tuberculosis is not recognized. He shows a variable appetite and loses weight; he is given a bitter tonic with some favorite digestant; no diagnosis is made. He has a tickling sensation in the larynx accompanied by cough; this is treated with sprays, the nasal septum is straightened, enlarged adenoids and tonsils are removed, the poor old uvula is clipped short up to the soft palate and opiates are administered; the cough remains and returns as soon as the opiates are left off. No diagnosis is made. The lungs have not been suspected. The patient expectorates blood; the throat is examined with more or less care for a mythological bleeding point, and to the great delight of the patient the physician thinks he sees the point from which the blood is coming. "Throat hemorrhage" is the diagnosis. The lungs have not been examined. And so on I might continue, but this is enough to show that our profession is not giving the best service that it can to those suffering from tuberculosis. I would

not detract one iota from the honor that is due our profession for its noble self sacrifice and its unswerving devotion to duty, but I would on the other hand, still further enrich and ennoble it by increasing its opportunity to relieve suffering, thus augmenting its power for doing good. In preventing the spread of tuberculosis and in offering an opportunity of cure to those who are afflicted the family physician must assume the responsibility and to him must be the honor. Whether the next generation shall witness the passing of tuberculosis as a common disease or not will depend on whether or not the family physician appreciates his opportunity and assumes the responsibility.

In this connection permit me to quote the introductory paragraph from the chapter on Diagnosis of Early Pulmonary Tuberculosis from my recently published book: "While it is desirable to expend greater energies and make greater effort to discover a more perfect method of treatment for tuberculosis, yet we must not lose sight of the fact that present methods when applied early will offer health to from 65 to 90 per cent. of patients. If medical men in general would expend but a fraction of the energy in learning to diagnose tuberculosis early, that a few scientists are expending in endeavoring to discover a 'cure,' we would be able to say that the cure for tuberculosis is already at hand."

Tuberculosis can and should be diagnosed before bacilli are found in the sputum. It is not a disease of sudden explosive onset following at once upon the taking of bacilli into the body; but a chronic one alternating between periods of activity and quiescence. In most cases there are prolonged periods extending over months, sometimes extending over many months and sometimes over many years, during which time the patient occasionally shows signs of tuberculosis, before the disease manifests itself with marked symptoms. Between the times when these slight symptoms appear, the disease is quiescent and the patient may suffer no inconvenience; and, were it not for the occasional periods of activity the patient would not know that anything ailed him. This condition of latency must be understood if we are to make progress in early diagnosis.

While I have no new symptoms to offer and no new method of examination which will afford a short cut to the diagnosis of early tuberculosis, yet at the risk of repeating trite facts I will discuss briefly what I believe to be the most important features to be observed in making a diagnosis of early tuberculosis.

Inasmuch as the patients who are suffering from early tuberculosis are seen first by their family physician, the burden of making the diagnosis is upon him and the question is how can he do it? In the first place he must take time to examine his patient and make a diagnosis and not treat symptoms alone. A man can not take a careful history and examine a patient for early tuberculosis in a few minutes. Specialists will often spend from one-half hour to one hour examining each patient and the general practitioner must not expect to render a verdict any

sooner. He should not trust too much to physical findings in the chest unless he be expert with the stethoscope; and he should learn not to be too free to give a negative opinion. He should learn to suspect tuberculosis, even if he is unable to find it by ordinary methods.

A carefully taken clinical history will usually give information of such value as to render the presence or absence of tuberculosis probable, and upon the knowledge so obtained the physician can base his further action. If the history furnishes positive information, then other methods of clinching the diagnosis should be resorted to at once.

A history of continued malaise with loss of strength and ability to perform accustomed tasks, perhaps with slight symptoms of nervousness, and some digestive derangement is very suspicious, and the more so if the patient has had several such attacks. Frequent or prolonged colds or attacks of bronchial catarrh; more or less continued hoarseness without apparent cause; a slight hacking cough; frequent attacks of so-called intercostal neuralgia; a slight rise of temperature (when other causes are ruled out); a spitting of blood either at the time or at some previous time; pleurisy either in the past or at present; are all suggestive of tuberculosis. If any one of these is present, or better if a combination of several of them is found, it makes a very suspicious history and calls for the application of other methods to complete the diagnosis. Such other methods are, first, a thorough expert examination of the chest; second, if necessary, repeated microscopical examinations of any mucus that may be raised no matter how scant it may be; third, the administration of the tuberculin test.

It is not probable that physicians in general will trust their ability to examine chests sufficiently to base a diagnosis upon it in the early stage before there is moderate infiltration as shown on percussion and before rales are elicited upon auscultation; but, they can take a careful history and gain a suspicion of the presence of the disease and then use the tuberculin test or call a consultant who is able to clear up the diagnosis.

In regard to the tuberculin test, I wish to say only a few words in passing. It is a perfectly safe procedure in the hands of careful men and need not be feared. While it is not regarded as infallible, it is as accurate as any other method of making a clinical diagnosis. The information obtained by its employment is invaluable and the supposed risk to the patient is in no wise commensurate with the real risk attendant upon uncertainty and delay.

The physician must learn, however, the danger of giving a negative opinion which assures the patient that there is nothing the matter and allows him to go ahead careless of his health. It is better in all cases where there is doubt, to have the patient exercise the same care as he would if the diagnosis were positive.

For those who do not feel sufficient confidence in their ability to diagnose early tuberculosis by percussion and auscultation I would like to mention the importance of the lagging of one apex behind the other when

the lesion is unilateral. Men, with a little training can soon learn to appreciate the difference in expansion which is perceived by the hands placed symmetrically over the two apices. I prefer to stand behind the patient and with my thumbs over the apex posteriorly, allow the palms of the hands with the fingers to extend down over the clavicle and upper ribs. As the patient breathes, if there is any difference in expansion of the two sides it can be readily detected. The affected side will either expand slower than the sound side; or, less fully, or both. This is to a certain extent inapplicable when both apices are infected, and under such conditions requires careful interpretation. Lagging does not necessarily mean the presence of an active tuberculosis. It can be interpreted properly only when taken in conjunction with other suspicious symptoms.

We must now discuss the third reason for failure from a clinical standpoint, viz.: the failure to apply remedial measures at once upon discovering the disease.

Tuberculosis must always be considered a serious disease. Delay in its treatment is always attendant with risk. There is never a time after the bacilli have formed the first focus when it is too early to treat the infection. But when the patient is seen by the physician it is a long time after this. It is only when the disease has extended sufficiently to cause constitutional symptoms, that medical opinion is sought, and therefore there should be no delay in instituting remedial measures.

From the nature of the disease, the patient does not realize its seriousness and consequently unless the physician is firm and positive, nothing in the way of treatment will be attempted, and the patient will be allowed to go on in his usual manner, the disease will continue to spread and soon the patient will be beyond hope of cure.

Statistics show that between 65 and 90 per cent. of first stage cases and between 30 and 65 per cent. second stage cases can get well, while a clinical healing can occur in only 5 or 10 per cent. of those who are in the third stage. In the face of facts, delay is not only permitted but even counseled by members of the medical profession who should know the seriousness of this disease. Patients are often told when the disease is first discovered that they are not sick enough to undertake treatment. This is a great mistake and usually results in the death of the patient.

If there is any disease that needs immediate intelligent treatment as soon as a diagnosis can be made that disease is tuberculosis, not because the patient without treatment will die the next day or within the next few days, as must be the case in diphtheria or appendicitis, but because the final outcome based on delay will be fatal in a much larger proportion of cases than in either of these other serious diseases. On the other hand, intelligent treatment at this favorable time will restore nearly all to health. Let both layman and physician be united in the opinion which is borne out by experience, that there is no time when it is too early to

treat tuberculosis, and then let it be treated according to modern approved methods and the failures which are now recorded will rapidly disappear.

In the few minutes allotted to me I have endeavored to point out from bacteriological and pathological standpoints why early tuberculosis heals more readily than later tuberculosis, and then I have endeavored to show that the burden of the failure to have the disease treated at this favorable time must fall conjointly upon the layman and the physician. What we need is to have a better appreciation of the early signs of tuberculosis, a better understanding of the principles underlying its cure and a determination on the part of both layman and physician to apply appropriate remedial measures as soon as the disease is discovered. Early recognition with immediate intelligent treatment are the essentials to success. They have taken away the fear in appendicitis and diphtheria; they will also do the same in tuberculosis.

NUTRITIVE DISTURBANCES FROM THE FAT IN MILK.

By JOHN ZAHORSKY, M. D., of St. Louis.

If you ask the American pediatrist what ingredient of cow's milk offers the greatest difficulties to the digestive functions of the infant, the reply will be positive—the proteids. This view has been held for several decades. It was promulgated by some of the old masters and in recent times has been expounded by Filatow, Biedert and Monti of the European schools, and by Rotch, Holt, Jacobi and Chapin of the American schools.

Now, however, the theories of the Breslauer school are rapidly gaining ground abroad, and as these are so contradictory to our previous conceptions, a critical analysis of their reliability as practical guides is in order. It is true that Czerny, Keller, Heubner and Finkelstein have done some wonderful work in the metabolism of the infant and their theories deserve careful consideration.

The old theory of difficult proteid digestion was based, principally, on the fact that casein coagulates in hard, large masses in the test tube; that large masses were frequently vomited by infants; and that "curds" were found in the stools, which were regarded as remnants of casein coagula.

We now have quite a large number of analyses of these curds, which can leave but little doubt that these lumps in the stools are usually not casein, but salts of the fatty acids. The precipitate produced by acetic acid in solutions of the stool must be referred to the nucleoproteids from the bile and the intestinal secretions. Only a small quantity of albumin can be found in the stools of infants, even those suffering from a nutritive disturbance, and most of this is probably derived from the bacteria. It seems to me, however, that the number of examinations are still too few to allow of a positive assertion that casein never occurs in the stool.

While cow's milk coagulates in large masses in a test tube, the coagula are much smaller when the tube is shaken and the milk added gradually. Nevertheless, the clinician who is perfectly familiar with the coagula regurgitated and vomited by infants, after the feeding of cow's milk or human milk, has little patience with these test-tube experiments. It is the universal experience that the coagula from cow's milk are larger and tougher than those from human milk. The evidence offered by emptying the contents of the stomach by means of a rubber tube is inconclusive, since the small opening of the tube acts as a sieve, only the smaller particles being admitted through the tube. Occasionally the clinician observes very large, hard masses of casein vomited, especially after stasis of the milk in the stomach. The European enthusiasts have

attempted to overthrow these observations, but the facts remain unaltered.

It is quite a different problem when the digestibility of these paracasein coagula is examined. The coagula of paracasein, as a rule, are readily dissolved by the digestive fluids and are broken up by the peristalsis of the stomach and intestines.

To assert that the stools of infants contain mostly fat, does not solve the problem of nutritive disturbance from cow's milk. The stool of the healthy breast-fed infant is also composed principally of fat. It is to this excess of fat in the stool that the soft character of the latter has been ascribed. According to the newer views, milk indigestion from cow's milk usually produces constipation and the stools are composed of hard lumps. Only exceptionally does an increase of fat cure the constipation. When no bacterial decomposition is present, when the milk given contains a minimum number of bacteria, a high percentage of fat often increases the constipation. Even Holt, in his series of cases (*Arch. Pediatrics,* 1905), reports one case in which a reduction in the percentage of fat in the food relieved an aggravated case of constipation.

When, however, bacterial activity becomes more active, the stools become thin, frothy, and more or less diarrhea results. This is the state of decomposition. It is probably in these cases that the saccharo-butyric type of fermentation may become implanted. Then the stools give a musty, or rancid fetor. According to Herter, ammonium butyrate is formed and this substance is very irritating to the buttocks and the rectum, giving rise to a dermatitis around the anus and the infant suffers from colicky pains and tenesmus.

The Breslauer school insists that meteorism is most marked in the milk indigestion due to fat indigestion. This is in line wth the observations of Herter, who also writes of the gas produced in the saccharobutyric fermentine caused usually by the bacillus aerogenes capsulatus.

But these clinical groups are probably infections and differ from the *Milchnährschaden* of the Breslauer school. It occurs even before any bacterial decomposition of the intestinal contents. In fact, what we term milk indigestion is always fat indigestion. To explain the harmfulness of milk indigestion they have worked out the interesting theory of enterogenic acidosis.

It was Keller who discovered ammonia in excess in the urine of infants suffering from digestive disturbances. Its presence in large quantities suggested that it was formed to neutralize acids. These acids were not found until Freund demonstrated that the fatty acids in the intestinal canal separate the calcium from its compounds with phosphoric acid, which is then absorbed. The phosphoric acid combines with alkalies in the blood and is excreted as a phosphate in the urine. When alkalies become deficient, the liver is forced to manufacture ammonia in order to neutralize the free acids. A greater destruction of tissue proteid occurs and the ammonia coefficient in the urine is very much increased.

Every digestive disturbance is necessarily accompanied by a metabolic disturbance and the formation of calcium and magnesium stearate, palmitate and margarate disturbs anabolism and then results the loss in weight, constipation, meteorism, etc.

This enterogenic acidosis must be carefully distinguished from the intermediary acidosis, to which subject Meyer and Langstein last year made an interesting contribution. They found that in a hungry infant the intermediary acidosis rapidly rises. These acid bodies are acetone, acetic acid and oxybutyric acid. This acidosis likewise occurs when an insufficiency of carbohydrates is administered to infants. A rich fat diet also favors an intermediary acidosis and the ammonia coefficient in the urine becomes augmented in a great degree.

While the subject of fat indigestion has been apparently so thoroughly worked out and an interesting hypothesis offered, the subject of proteid indigestion receives little attention by the new schools. In fact, Czerny and Keller declare that unless some new researches reveal additional evidence, the subject of proteid indigestion has no clinical importance.

If, then, milk indigestion means fat indigestion and an enterogenic acidosis lies at the root of the trouble, the administration of alkalies should give relief. Although Czerny and Keller did not have any definite results from their experience, the wide-spread use of alkalies, such as sodium citrate, sodium bicarbonate, lime water, and others, indicates that their administration in milk indigestion is at times very useful. Even peptonized milk, it must be remembered, is made by the addition of a large amount of bicarbonate of soda, and it is possible that the beneficial results of peptonization may, at least partially, be due to the addition of the alkali and not to the partial digestion of the proteids. Thus the hypothesis of fat indigestion and enterogenic acidosis has a very alluring aspect.

The American pediatrists have given scant attention to fat indigestion or nutritive disturbances from fat, since the whole attention has been absorbed in the problems of proteid indigestion. Numerous methods have been devised to overcome the difficulty of proteid indigestion and while all the difficulties of milk indigestion have not been solved, our results compare very favorably with the clinicians who work on different theories. Holt, not long ago, reported a series of cases of nutritive disturbances due to an excess of fat in the diet, but the symptoms which he attributed to this excess of fat were not uniform and little or no conclusion can be drawn from this study. Certainly, he who has followed recent researches in spasmophilia (infantile tetany) will hardly assign the high percentage of fat to a place in the etiology, although it is possible that a disturbance of nutrition in the sense of Czerny and Keller may favor the spasmophilic diathesis.

Rotch has taught us for many years that infants afflicted with marasmus do not improve on a milk mixture containing the ordinary

percentage of fat. This is the only American testimony that can be found to corroborate the European views. For it is rational to infer, from this clinical fact, that in the conditions preceding the atrophy, fat is not digested, and thus may be harmful.

Have the new theories added anything to our practical rules for feeding? Probably, yes. In the nutritive disturbances due to milk indigestion the reduction in the quantity of fat often results in an improvement in the symptoms. To make up the heat units it is necessary to add an additional amount of carbohydrates. The favorable results obtained from buttermilk or condensed milk is usually attributed to altered character of the proteids, but may really be due to the high percentage of sugar and the low percentage of fat. The whey and condensed milk mixture so highly recommended in atrophy by Dr. Saunders, may owe its efficiency to its low fat and high sugar content. The mixture, as usually prepared, contains about 1½ per cent. of proteids, 1 per cent. of fat and 8 per cent. of sugar.

The theory of *Milchnahrscheden* from fat does not, however, explain the beneficial effect of cereal decoctions in the milk mixtures. While starchy gruels have been used for decades as diluents for milk, it was Keller who first studied the subject scientifically and demonstrated that flour decoctions with beet sugar are far superior to solutions of milk sugar in the diet of infants suffering from indigestion.

It should be remembered, however, that an excess of sugar very much favors the development of that syndrome of symptoms which Finkelstein has designated alimentary intoxication. It is, perhaps, never wise to use a milk mixture containing more than 8 per cent. of the mixed carbohydrates.

For several months I have been trying to test the newer theories in practice. I am still unable to attribute all the faults of indigestion to the fat in the milk. Certainly, I am not so enthusiastic over fat-free milk as Walls, of Chicago. Yet I believe we have been laying too much stress on the proteids. Infants can often take a high percentage of proteids if the fat is reduced. On the other hand, young infants who received 2 or 3 per cent. of fat do better when the proteids are very low in percentage. Skimmed milk does not solve all our difficulties, as even the Breslauer school admits.

I will briefly report a few recent cases which illustrate some of the difficulties of milk indigestion.

Baby L., aged 4 months, was rather delicate since birth and had digestive disturbances. He spent the hot summer months near Milwaukee where he received a milk according to the Backhaus formula. During this time he gained very slightly in weight, but his digestive functions seemed very good. When he returned to St. Louis I ordered a milk mixture from the Walker-Gordon Laboratory, having apparently the same composition as the food he had been taking. The infant did not do well, however; he was troubled very much with flatulent colic. The

stools were not bad in color or consistency, but had a rancid odor. Some large curds were passed in each stool, which had the appearance of lumps of butter. The fat, which was 3 per cent., was then reduced to 1 per cent. with little or no improvement in the symptoms. The mixture given was whey and cream. This was discontinued and a simple dilution of certified milk used. Still lumps of butter were passed, and after two weeks no gain in weight had resulted. Then all the cream was taken from the bottle and more sugar added. Still no gain in weight occurred, although the curds in the stool grew less numerous. The odor of the stool was unchanged. Then dextrinized flour gruel was used as a diluent, the fat increased to 2 per cent. The infant commenced to gain in weight and the other symptoms disappeared.

I am unable to reconcile the incidents in the history of this case with the acid intoxication hypothesis. True, there were some fatty lumps in the stool, but fat alone certainly was not the only cause of the indigestion.

In another infant, 6 months old, who refused to gain in weight for 6 weeks, and had repeated attacks of severe colic, skimmed milk produced no improvement, either in the weight or constipation.

In another infant, 10 months old, skimmed milk did not relieve a constipation resulting from a dilution of top milk.

It is a clinical observation generally known, that most infants are constipated on cow's milk when the milk is not decomposed by bacteria. The great objection to certified milk is that it usually induces constipation. The stools are usually hard and light in color. Yet these infants do very well and no symptoms of nutritive disorders are present. It takes more than the presence of calcium soaps in the stools to show that the digestion is out of order.

Rothschild has recently reported cases of diarrhea from excessive fat, which only shows how clinicians still differ as to the origin of certain disorders. The Breslauer school has as yet given scant attention to diarrheal cases from fat indigestion.

No one will doubt the value of the studies of the younger schools of pediatrics. The physiological chemistry of the digestion and metabolism should be thoroughly elucidated. But they have made the mistake of overthrowing, or at least disregarding, the clinical experience of the ages because their test tubes did not show the inferred reactions. It is again the laboratory fighting the clinician. The history of the past shows that the clinical phenomena recorded must be explained by the laboratory, and not set aside. Experience has abundantly shown that the subject of the digestion of cow's milk, or rather the indigestion produced by it, is much more complex than is indicated by the acidosis hypothesis.

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ADDISON'S DISEASE.

By L. H. Hempelmann, M. D., of St. Louis.

The train of symptoms that we call Addison's Disease was first described by Thos. Addison in 1855. He reported 11 cases, described the symptoms, and pointed out that the disease was due to an impairment of function of the suprarenal capsules. These cases are rather rare and because of the many obscure points connected with them and their resistance to all forms of treatment, have never ceased being objects of interest to clinicians.

Addison's disease is a symptom-complex which ensues after disease of the Suprarenal Capsules or the neighboring Sympathetic ganglia. Embryologically the parenchyma of the adrenals is derived from the sympathetic system being classed as an "accessory organ" together with intercarotid ganglia and organs of Zuckerkandl while the cortical part comes from the mesonephros from which the urogenitalia are derived.

The physiology of these interesting bodies is not fully worked out as yet but one is quite safe in saying that these so-called "ductless glands" are essential to life, that they supply the blood with a substance that raises the blood pressure and that they neutralize certain toxic products the result of muscular activity.

The etiology and the pathology are also not very well understood, one finds a tuberculosis of the suprarenals in 80 per cent. of the cases and next in frequency a simple atrophy of these organs. Occasionally neoplasms, gumma and ecchinococci of the adrenals or disease of semilunar ganglion have given rise to this symptom complex. In certain cases that have presented the whole picture of Addison's disease the suprarenals have been found intact and in other cases, disease and even destruction of the adrenals has occurred without producing symptoms of this disease. Kohn in 1903 described a system of "chromaffine cells" in the suprarenals and in the neighboring sympathetic ganglia which he thinks are responsible for these apparent anomalies. He and his followers (Wiesel and others) claim that Addison's disease is really a disease of these chromaffine cells and that in those cases where the adrenals are diseased and no Addison's has resulted the chromaffine cells of the sympathetic have vicariously assumed the function of those of the suprarenals. In the cases of Addison's with intact adrenals the chromaffine cells of the sympathetic ganglia are found diseased. These views have been opposed by some authors and one must admit that some of the deductions have not as yet been proven.

Neusser's views as to the nature of Addison's disease are summed up as follows:

"The suprarenal capsule is a gland with an internal secretion. It possesses a double function: First, the neutralization of the toxic products of the metabolism of other organs; second, the synthetic production of a substance which is essential to the sympathetic system maintaining its nutrition and a normal tone.

In every case the symptoms of Addison's disease result from impairment or eventually complete suppression of these functions of the suprarenals, brought about by disease of the capsules themselves or of the nerve tracts controlling their function. (According to Neusser the splanchnic.) These nerve tracts extend through the splanchic and the coeliac ganglion from the spinal cord. This impairment and eventual suppression of the function of the suprarenals account for the nutritive and functional disturbance of the sympathetic system on the one hand, and for the general autointoxication on the other. In addition to these two principal factors extension of the pathologic process in many cases to the abdominal sympathetic is responsible for the occurrence of some of the symptoms of Addison's disease.

Pigmentation of the skin and mucous membranes is not an integral part of Addison's disease and though of decided diagnostic significance is not an essential feature (being the result of lack of tone of the sympathetic)."

Addison's disease is a disease of adult life; being rare under 35 although a few cases in children have been reported. It is much more frequent among the poorer classes than in the well to do. Males are affected almost twice as often as are females.

The cardinal symptoms of the disease are the asthenia, the discoloration of the skin and of the mucous membranes, the low blood pressure and the gastro-intestinal disturbances. There is usually some anaemia although not of a high grade, also mental hebetude toward the end of the disease and vertigo and ringing in the ears especially if we attempt to have the patient sit up. Dr. Addison's description is so classical that we can do no better than to quote him. He says regarding the symptoms: "The leading and characteristic features of the morbid state to which I would direct attention are, anaemia, general languor and debility, remarkable feebleness of the heart's action, irritability of the stomach, and a peculiar change of color in the skin, occurring in connection with a diseased condition of the supra-renal capsules." And again speaking of discoloration: "This discoloration pervades the whole surface of the body, but is commonly most strongly manifested on the face, neck, superior extremities, penis and scrotum, and in the flexures of the axillae and around the navel.

"It may be said to present a dingy or smoky appearance, or various tints or shades of deep amber or chestnut-brown; and in one instance the skin was so universally and so deeply darkened that but for the features the patient might have been mistaken for mulatto.

"In some cases the discoloration occurs in patches, or perhaps rather certain parts are so much darker than others as to impart to the surface a mottled or somewhat checkered appearance. * * * * This singular discoloration usually increases with the advance of the disease; the anaemia, languor, failure of appetite, and feebleness of the heart, become aggravated; a darkish streak usually appears on the commissure of the lips; the body wastes, but without the emaciation and dry harsh condition of the surface so commonly observed in ordinary malignant disease; the pulse becomes smaller and weaker; and without any special complaint of pain or uneasiness the patient sinks and expires."

The cause of the pigmentation of the skin and mucous membranes and its mode of origin have remained unexplained up to the present although the adrenals have been removed experimentally in certain animals and infected with tuberculosis in others and all the other symptoms of the disease reproduced. Similar pigmentation occurs in persons who are exposed to high temperatures such as stokers on ships and in gas works, also in the so-called vagabond's disease, in certain cases of tuberculosis and in pregnancy, in "bronzed diabetes," melanotic sarcoma, Von Reklinghausen's disease, syphilis, and after the prolonged use of arsenic or silver.

The diagnosis in advanced cases is easy but is very difficult in the early stages and it seems to me that until we learn to recognize cases of Addison's disease early our therapeutic efforts will probably remain futile. Greenbaum *(Practitioner,* August, 1907), claims that suprarenal extract given three times a day will produce a distinct rise in blood pressure in three days in Addison's disease while no rise will be recorded in other similar diseases. In our second case the blood pressure rose after the use of suprarenal tablets, but of course the method requires prolonged and careful testing to determine its real value in diagnosis.

Prognosis: Until recently once the diagnosis Addison's was made the only hope for the patient was that the doctor had made a mistake in the diagnosis. In May, 1907, however, Ernst Grawitz presented two recovered cases of Addison's before the Berlin Verein fuer Innere Medecin, so that those of us who are optimists can hold out some hope of recovery to the patient and his family. As a rule the disease runs its course in two to three years although acute cases terminating fatally in from three to five months have been recorded. Remissions occur in some cases during which the pigmentation recedes and the patient's general condition improves but after a time the symptoms recur and cause death in a short time as a rule.

Therapy: The various suprarenal preparations which have naturally been used in this disease have all proven themselves almost useless. A few authors express themselves as having seen temporary improvement after their use but as these remissions occur spontaneously also it is hardly fair to say that they occurred because of the treatment used; perhaps we do not give these preparations early enough or do not use

them properly. It is probable that our tablets and extracts if they are not destroyed in the process of digestion have only a temporary action. Ernst Grawitz gave his cases that recovered hydrochloric acid, washed the stomach with normal saline solution and gave nutrient enemata. He thinks that auto-intoxications play a role in the etiology of this disease and claims that these are lessened by the means he uses. His first case has been under observation since 1901 and the other since 1903; the method certainly is worthy of a trial.

During March and April of this year we had two cases of this interesting disease under observation at the same time and as we were fortunate enough to obtain an autopsy in each case, I think a brief report of them will not prove uninteresting.

Mrs. B. L., age 34 years, was admitted to the hospital on April 12, 1907. Her family history was good; she said that she had had measles when six years of age, typhoid fever when 21, and sciatica when 24; otherwise she had always enjoyed good health. Her menses appeared in her 13th year, had been regular and painless; she had had two children, the younger being eight years of age. Her habits were good. Her husband had deserted her in 1902 and since that time she had often been in want, this had caused her much worry and often made her despondent. Her present trouble began two years before her entrance to the hospital when she noticed that she was unable to work as she had done formerly and that she tired very easily. Her skin had been growing darker for the past year; the weakness had progressively increased so that she had been unable to do work of any sort for the past three months. Since the same time she had had a great deal of backache which had also been growing worse lately. For several weeks she had been confined to her bed because of the weakness and the pains in the lumbar region. She had vomited several times the week previous to her entrance to the hospital, never previous to that time. As a rule her appetite had been good and her bowels constipated.

Physical examination showed a well built, slightly emaciated woman whose skin had a peculiar light brown color something like the coat of tan one acquires on a summer vacation. The skin of the hands and of the face was darker than that of the body but there was no especially dark pigmentation of the areola around the nipple or in the regions exposed to friction from the clothes. A slight branny desquamation was present on the forehead and the cheeks and a few dark brown spots were visible on the mucous membranes of the mouth. Her grip was very weak and became rapidly weaker if one asked her to squeeze the hand repeatedly. There was no vertigo on having her sit up in bed.

Examination of the lungs was negative, of the heart revealed a slight mitral insufficiency; the pulse was 90 and of low tension; unfortunately the blood pressure was not taken. Examination of the abdomen and of the urine was negative as was also examination of the lumbar region where she complained of intense drawing pains. These she said were

almost unbearable and as we were anxious to give her some relief and thus keep her in the hospital for further study, that panacea for all muscular pains, asperin was prescribed for her. The next day she expressed herself as feeling much better and told the house physician at eight p. m. that she was quite comfortable. At 10 p. m. she sat up in bed, screamed and fell back dead.

The autopsy 14 hours later showed old pleural adhesions on either side, normal lungs, and a thickened, shrunken mitral valve. The myocardium was soft, yellowish and easily perforated by the finger. Both adrenals were atrophic, the right one about ⅛ inch; the left perhaps ¼ inch in diameter, globular in shape and dark in color, looking something like a lymphatic gland. Microscopical examination showed an atrophic condition, remnants of normal adrenal tissue being recognizable here and there.

The second case, a steamboatman of 44 years, entered the hospital on March 2, 1907. His family history was good and he claimed to have been always healthy except for several attacks of "malaria." He had never had any venereal trouble and had used alcohol and tobacco moderately. He said that he had felt weak and tired for about two years, that he had lost 15 or 20 pounds in weight, and that his skin had been growing darker for at least a year. For the past six months he had felt unable to work; there were no aches or pains and no digestive disturbances at this time.

Examination showed a well built man the peculiar color of whose face and hands at once arrested attention; the skin was brown something like one sees in Italians who have been much exposed to the sun. The hands, face and especially the back of the neck were quite dark, the body being quite a bit lighter in color. The buccal mucous membrane was anaemic, but there were no pigmented spots. The teeth were in bad condition, the gums being spongy and bleeding easily reminding one of scurvy. Physical examination of the chest and abdomen were negative, the pulse was small, regular, of poor tension. The blood pressure varied from 75 to 90 m.m. There was no tenderness in the suprarenal regions. The 24 hour urine was normal in amount, contained some pus at the time of his admittance which, however, cleared up under urotropin. At later examinations it was found normal. Blood examination showed 3,500,000 erythrocytes, no leukocytosis and no plasmodia. Haemoglobin was 55 per cent. Repeated examination of the stool failed to show occult blood or signs of parasites. He was under observation a little more than 10 weeks and grew progressively weaker throughout this period although there were days when he expressed himself as feeling much stronger.

After about the fourth week he vomited occasionally and later had attacks of diarrhea; these seemed to come on after an indiscretion in diet at first, later they occurred spontaneously and toward the close were more or less constantly present.

Adrenalin, and later suprarenal gland, was administered and a rise in blood pressure and in strength noted, but soon these returned to their former state and the patient continued to lose ground. Finally he became bedridden for the last four weeks of his life and about two weeks before the end we noticed a peculiar branny desquamation on the cheeks and the face similar to what we had seen in the other case. At the same time we noted a few small pigmented spots on the buccal mucous membrane. He usually lay on his side "curled up" as it were, when asked to straighten out his legs he had peculiar cramps in the quadratus femori and the abdominal muscles that made him draw up his legs again. His temperature was constantly subnormal and the pulse scarcely perceptible. About ten days before his death he refused all food and died of asthenia on May 20th.

The autopsy held three hours after death showed old pleural adhesions on both sides and a small tubercular scar in the upper lobe of the left lung. The heart was normal, the myocardium soft and friable. The spleen was normal, the capsule thickened (perisplenitis). The left adrenal was absent no trace of the same being discoverable even on close search. In the region of the right suprarenal we found a piece of dark tissue about ¾ inch long and ⅛ inch in diameter in which one could recognize atrophic adrenal tissue microscopically. The abdominal lymphatics were somewhat enlarged, the other organs were normal. There were no scars or adhesions in the region of the adrenals.

A third case in which the tentative diagnosis of Addison's disease was made but not substantiated at the autopsy is reported to illustrate the difficulties in diagnosis and to record a rare condition.

The patient, a lady 47 years old, entered the hospital last November, although she had been under observation in the clinic several months previous to that time. The family and previous history show nothing of importance. Her chief complaint, weakness and inability to work, had been coming on for about a year but had grown very much worse in the last few months; she had lost in weight and had been troubled with diarrhea a good deal. She also complained of pains in the back and the abdomen and had herself noted that her face was somewhat darker than usual and that her arms were becoming freckled.

Physical examination was negative except for very faint heart sounds and a weak pulse. The blood pressure was 80 and it was not possible to note any increase in blood pressure after giving suprarenal extract. Addison's disease seemed the most probable diagnosis and the Grawitz treatment was instituted but the patient rebelled against the stomach tube and would not retain the enemata so that this line of treament had to be stopped. Soon after this she refused to take her medicine and later refused food eventually becoming stuporous. She died the latter part of January and the autopsy showed normal adrenals, an annular adenocarcinoma of the jejunum and an acute suppurative interstitial myocarditis.

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AN INTERESTING GALL BLADDER CASE.

By Wm. S. Deutsch, M. D., of St. Louis.

In June of 1907, I was called by Dr. M. G. Guhman to see Mrs. H. with him at the Washington University Hospital. The case presented the following conditions:

The woman, a German, 62 years of age, well nourished and a good color, had been complaining for some weeks with pains in her lower abdomen, accompanied by some nausea, loss of appetite, and a general feeling of malaise.

Upon examination of her abdomen, I found it somewhat distended, especially the lower portion, and decided tenderness to the touch in the right iliac region. The epigastrium, as well as the rest of the upper abdomen, was free from pain and distension. The patient said her bowels had not moved for several days, although this she said was nothing unusual. Temperature was 101 F., pulse 100, intermittent and of poor volume. The urine showed chronic Bright's disease. The blood gave no leucocytosis, and the other organs gave negative findings.

Had the patient been a younger woman, notwithstanding the fact that her kidneys were bad and her pulse intermittent, I would certainly have operated at once, expecting to find some appendix disease. As it was, I decided to watch her, emptied her bowels, put her on the usual hot application and rest treatment, and having her in the hospital, was ready to operate on her at any minute should her symptoms become alarming, in the meanwhile prescribing for her kidney and heart action.

Her temperature and pain gradually subsided and her bowels moved freely following the enemas, the stool being practically bile free. After a week, she was able to leave the hospital for her home.

I must acknowledge that I felt my patient had gotten over her spell, and my diagnosis, while leaning towards appendicitis, was in many respects wanting, and I asked her physician to keep me posted as to her future.

We were not long kept in doubt as to what turn the case would take, for after two weeks at home I was called to see her in a very severe attack of what I took to be a typical gall bladder spell, with excruciating pain in the epigastrium, chill and fever and distension over the gall bladder and stomach area. Now, too, I could see a slight icterus which the patient said had existed for several days. I sent her to the Jewish Hospital and operated on her the following day.

Under ether, I made the ordinary Mayo-Robson incision through the right rectus and came on to an adhesion of the omentum to the liver. After thoroughly walling off, with gauze strips, I sought my way

cautiously to the gall bladder region, my finger at once encountering free pus coming from what was left of a perforated, gangrenous gall bladder. There were no stones to be found and I then excised a small piece of the sloughing gall bladder wall for microscopic examination. After putting in the usual rubber tube drains, I filled the cavity with gauze and inserted some through and through sutures, then hastened the patient off the table. She had a few days that were quite stormy, during which a great deal of bile and pus drained from the opening, and after four weeks left the hospital with a small suppurating fistula, which made several attempts at closing only to break open again. For the past two months, the wound has remained closed and the patient feels well. She is gaining in weight and strength and while her bowels require purgatives, the stool is of a normal color. As the microscopic report was non-malignant, I can predict that the patient's condition will remain satisfactory.

I feel that this case exemplifies a class in which the symptomatology is misleading, and again because, contrary to most cases of septic, gangrenous, perforating gall bladders, the outcome was not fatal. I am of the opinion that her first attack, while it had a number of signs pointing to appendix envolvement, was primarily caused by the gall bladder lesion giving these reflex signs in the lower abdomen. I take the case to have been one of those phlegmonous, perforating inflammations of the gall bladder, resembling in pathology the disease in the appendix and like it, ending in gangrene and pus formation. Mayo Robson says of these cases that the second attack usually comes on suddenly, becomes quickly serious, and like the perforating appendix cases, the bacterial infection is so violent that a complete destruction of the gall bladder occurs.

Not having found any stones, and having gotten the history of typical gall bladder colics in her earlier life, I am inclined to believe that this case was one of a long standing, chronic, non-calculous, cholecystitis ending in suppuration, gangrene and perforation.

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THE CASE OF JONATHAN SWIFT.

By George M. Gould, M. D., of Ithaca, N. Y.

"Heredity." To eyes with "Twenty-fifteen" acuteness—those without the myopia of "Science," the astigmatism of prejudice, or the amblyopia of disuse, to eyes that are the glad servants of free intellect, the medical case of Jonathan Swift is, of all, the most pathetic, even the most tragic. A good-sized book has been written upon it, and by a good head, ending in the confession of a greater mystery than that with which it began. And learned monographs upon the subject have left it clouded in more impenetrable confusion than before. Because by necessary or chosen error, the authors recommitted the ancient blunder of careless study of the unknown disease of the unknown patient, mistakenly assuming the diagnosis to be a disease that never existed, either in this or in any patient. For Science does not always beget sense, and erudition by no means brings wisdom. Almost the only striking instance of the olden philosophy of Swift's disease that looks most modern is that which traces it to the mysterious unknown God, Heredity. It was indeed due to the modern-looking mind of Mr. Deane Swift:*

> "As one enterprise after another failed, the store of money dwindled; his nerves were shattered; ultimately, what may, to some extent, have been a family scourge of insanity, fell on him, and his mind gave way. His death soon followed, in 1688." (Of Godwin Swift, his uncle.) (Craik).
>
> "The Dean's father in particular," says the note, "was swung against the wall, and the violence of the blow laid him for dead upon the floor. He was then two years old; he was all his life subject to a giddiness, and so in like manner, were the Dean and his sister. It was supposed the disorder was owing to this accident. This new origin for the Dean's malady is probably due only to Mr. Deane Swift's fertile imagination." (Craik).

The latest erudite monograph on Ménière's disease would probably talk just that way about giddiness and heredity. We may be thankful that Ménière invented his disease so long as 116 years after Swift's death, and be correspondingly sorry that it could not have been as much later.

Youth and Early Manhood. Concerning one who lived so long ago there is of Swift a remarkable fulness of information because the intensity of the interest of contemporaries and of aftercomeres has well preserved the records of correspondence, anecdote, etc., both of Swift

*A relative of Dean Swift.

and of his friends. And as the ancient childishness of Medical Science had not yet given way to modern dogmatism, craze of theory, and modernity, the facts were naively left undistorted.

Swift stoutly stuck to it that during his college days he had not been idle but simply "dull," that he was "stopped of his degree for dullness and insufficiency." He even spoke of himself as a "dunce." Swift dull? Even in boyhood? His birth-cry must have been a clear cut protest of wit or of satire! That of Swift must be the history of many boys who really have been the reverse of dull, but whose inability to study was not understood by themselves, their teachers, friends, or doctors. We come upon the startling reason when we read that the well-known excess and fury of physical exercise which has dominated the lives of so many other sufferers afflicted with Swifts' disease, broke forth so early as 19,*—and because of eye-work:—

> "He was reading at this period about sixteen hours a day. In the midst of this reading, he took that regular and violent exercise which almost to the end of his life he found to be an absolute necessity; exercise of that fierce and excited kind which rather served as an escape from too violent emotions than as an aid to his physical health. At Moor Park, as, curiously enough, at many another spot where Swift lived, tradition names a small hill close to the house, up and down which Swift is said to have run, when the strain of mental excitement made a break of a few minutes necessary." (19.)
>
> "The youth had not completed a year's residence, when, as he says himself, he returned to Ireland by advice of physicians who weakly imagined that his native air might be of some use to recover his health." (23.)

And even the psychologist of that time could be as maladroit as any of to-day:—

> "And this is which a person of great honor in Ireland (who was pleased to stoop so low as to look into my mind) used to tell me, that my mind was like a conjured spirit, that would do mischief if I would not give it employment." (23.)

How it was with him for the next seventeen years, we may only surmise from the following sentences:—

> "He once had a narrow escape from burning himself and the household, by reading in bed, and letting the candle set the bedclothes on fire, an accident which he had to keep from the knowledge of his hosts by disbursing some guineas of hush money." (32.)
>
> "The same characteristic, which it is difficult to disconnect from the forebodings of mental disease that cast a shadow on his life, now led him to stir to exasperation, and yet all unconsciously, the religious sentiments of those whose church he desired to defend." (36.)
>
> "The bitter humor, the self-torture, the cynicism from whose ravages he was himself the chief sufferer, had not as yet been stirred to their depths." (37.)
>
> "The illness that was to torture him through life had not yet suggested to him its full strength and pertinacity." (37.)

*The age of Swift at the time indicated is placed at the end of the quotations to follow, from his biographies or from his own correspondence, etc.

Sick Headache, or "Migraine," Returns in Ominous Earnestness With Presbyopia. And this second outbreak reminds the observant patient of the first violent warning given him at the age of 29, about eleven years previously.

> "I have been confined near two months this winter and forbid pen and ink by my physician; though I thank God, I was more frightened, as it happened, than hurt. I had a colick about the year 1696, that brought me to extremity, and all despaired of my life, and the newsletter reported me dead. It began at the same time of the year and the same way it did then, and the winters were much alike; and I verily believe had I not had the assistance of my old physician, Sir Patrick Dun, I should have run the same course which I could not have supported. But with a little physic and the Spa and Bath waters, I escaped without other hardships than keeping at home; and so much for private affairs." (40.)
>
> "Ever since persecuted with a cruel distemper of giddiness in my head, that would not suffer me to write or think of anything and of which I am now slowly recovering." (40.)
>
> "His memorandum books, during this winter of 1708-09, are filled with agonized references to these tortures. All the year, he tells us, he was in England; and in another corner of the notebook, he has jotted down the words *in suspense*."
>
> 1708. "Nov. From 6th to 16th often giddy. God help me. So to 25th, less. 16th Brandy for giddiness, 2s. Brdy 3d. Dec. 5th Horrible sick. 12th Much better, thank God and MD's prayrs. 16th Bad fitt at Mrs. Barton's. 24th Better; but dread a fitt. Better still to the end." 1709. Jan. 21st an ill fitt; but not to excess. 29th Out of order. 31st Not well at times. Feb. 7th Small fitt abroad. Pretty well to the end. March. Headache frequent. April 2. Small giddy fitt and swimming in head. MD and God help me. August. Sick with giddiness much." 1710. "Jany giddy. March. Sadly for a day. 4th. Giddy from 4th. 14th Very ill. July. Terrible fitt. God knows what may be the event. Better toward the end." (Forster) (41).

Much foolish writing of Swift's "epileptic tendency" has been allowed, because of the medical ignorance of the disease or symptoms called sickheadache, but perhaps as much by reason of Swift's natural use of the term "fitt." In Swift's time the word meant simply an attack of some severe illness, or a recurrent attack of a periodic or constitutional malady. The word aptly denoted a seizure of any severe but transitory ailment. Thus in 1547, Surrey speaks of "shaking fits;" in 1601 Shakespeare uses the word of the paroxysm of "a feavor;" in 1667 Allsopp writes, "Taken with a fit of the collicke;" in 1691 the Bishop of London had a "fit of the stone;" and in 1725 the expression "The fits of intermittent fever," "of gout," etc., were common. Even to-day we hear of "A fit of coughing," etc. The "colick," the "bad fit," the "ill fit" of Swift was plainly what we know so well in thousands of patients, the acute outbreak of sickheadache, consisting of violent vomiting, headache, etc. That Swift had but one attack or noteworthy "fit of the

colick" prior to the more frequently recurring ones at the onset of presbyopia, is in accord with the daily experience of oculists now. From 1861, of the first fifty cases reported of so-called "Ménière's Disease" (sickheadache only and truly) the ages of the patients average 45 years,—a most suggestive fact for the awake oculist,—but not for aurists and other physicians! Moreover, note that above 200 years ago the same causes produced it, the same course characterized it, the same pseudo therapeutics followed it. Reading 16 hours a day hints the story of the cause; the patient is in "tortures," "suspense," and thinks he has incipient insanity, mysterious inherited disease; he is "cured" by quitting near-work with the eyes, by violent exercise, by the "old physician" and his "physic," and by going to "the Spa and Bath waters," and—the disease recurs, goes on from bad to worse, and finally to worst!* And the two hundred years of this sad, solemn ignominious history are likely to go on for two hundred more before the farce is ended. Even to-day while a few good oculists report thousands of cases cured by scientific refraction of the eyes, the most report that the disease is not caused by eye-strain.

Craik, I am convinced, is in error when he says that Swift in 1690, aged 22, was "already suffering from his life-long enemies, giddiness and deafness, which were to continue with such persistency, etc." I can find no warrant for the statement as regards deafness, and the histories of many similar cases in my practice make the appearance of this symptom at this age highly improbable. The writer's pen ran away with him, a bit of proof of which is given in the same sentence, "and the advice of physicians gave him an excuse for returning to Ireland to recruit his health." The first time Swift uses the word "deafness" is at the age of 52. Giddiness he may have had at any time of life, and at 44 he says he had had this symptom "twenty-three years by fits." The ingravescence of his symptoms as presbyopia advances** is illustrated in the more vague terms, more frequently noted:—

"I have had no fit since my first, although sometimes my head is not quite in good order." (43.)

"During April he was further troubled by a tedious and painful illness which he calls the shingles." (44.)

"My head is still in no good order." (44.)

"Pray God mend poo Ppt's health; mine is but very indifferent. I have left Spa water; it makes my leg swell." (44.)

"A fortnight in Dublin very sick." (45.)

"I don't sleep well, and therefore never dare to drink coffee or tea after dinner: but I am very seepy in a morning." (45.)

*"Of what use," say my critics, "to retell these old indefinite histories of long dead men?" Of none to the critics. Such clinics are not indefinite. It is true these patients are dead, but those of the critics are not dead,—at least most of them, and they have the identical diseases of the older and more recent dead ones.

**Noteworthy is also the long extension of presbyopic symptoms in Swift's case into his very last years, from 70 to his death, caused by contempt of spectacles, and abuse of his eyes.

"I heard from Mr. Lewis that your head is so much out of order." (45) (Miss VanHomrigh to S.)
"But my health has not yet suffered me." (45.)
"My health requires it." (45.)
"I was in very ill health and am since but slowly recovering." (52.)
"My few hours of health and leisure." (52.)
"Considering my state of health." (53.)
"My health will not suffer it." (53.)
"A sickly man." (53.)
"Remember that riches are nine parts in ten of all that is good in life, and health is the tenth." (54.)
"Out of Health and Humer." (54.)
"I am so much out of order that I could not go to Church." (55.)

By those who excel in the exaggeration of negations I have been persistently charged with all sorts of positive "exaggerations," but especially with the exaggeration of the effects of eyestrain and disease upon the personal character, disposition, habits,—the intellectual and moral caste of the patient. Here is how Swift's discriminating biographer feels about the matter:—

> "There is little in the portrait, as there was little probably that attracted the attention of Swift's ordinary acquaintance, to tell of the ravages of disease. Those ravages were already present, but as yet they were only intermittent. Outwardly indeed, Swift's health was good. He had a powerful and muscular physique. The stories of his walks, of his constant, violent exercise, of his coolness and intrepidity when threatened with personal violence, prove that his estimate of his own strength was not mistaken, though, by a fatal error, it drove him to a regimen that encouraged the disease. In all his ailments, his only idea of a cure seems to have been to drive out some superabundant energy by forcing himself to overstrained physical exercise. He lived hard, in the sense that he drew largely on his strength, and seemed ever to be striving to tame his energies rather than to conserve and regulate them into useful servants. But as yet the dire effects of such self-torture were not visible; and Swift was, as his portrait shows him, a man in the prime of life, and in the vigour of an almost superabundant strength; knowing his own powers, and yet without the bitterness of those later antipathies, which checked the free flow of the gracious kindliness that endeared him to a circle such as gathered at Will's or at the St. James's Coffee-House, in those earlier years." (41.)

The biographer, of course, makes the common mistake of supposing the ferocious demand for physical exercise "encouraged the disease." The biographic clinics of every severe eyestrain-sufferer in the past, or in the office of to-day's oculist, demonstrate that that is the sole way the outraged nervous system has of stopping the insult, and also of disposing of the excess of irritation,—of normalizing the nerve-centers and cerebral storage and recuperative mechanisms. It is nature's therapeutic device avidly seized upon if the physical organism will endure, and if the will chooses or is of the kind to command.

SWIFT'S "GIDDINESS." Giddiness, vertigo, or dizziness, is a somewhat less common symptom of eyestrain, migraine, etc., than headache and digestional affections. At 44, Swift says he had had fits of giddiness for some 23 years. The jottings are as follows:—

"I have had my giddiness twenty-three years by fits." (45.)
[Beginning therefore at the age of 22.]
"* * * pursued with a giddy head." (52) (Mr. Prior to S.)
"* * * the giddiness I am subject to, and which this moment I am not free from." (54.)
"Afflicted at present with a giddiness in my head." (57.)
"* * * so ill with a giddiness." (57.)
"His health, moreover, was failing, and the attacks of giddiness and deafness from which he had suffered much in late years, returned oftener and lasted longer." (58.)
"Yet my giddiness alone would not have done, if that unsociable comfortless deafness had not quite tired me." "I believe this giddiness is the disorder that will at last get the better of me; but I would rather it should not be now; and I hope and believe it will not for I am now better than yesterday. Since my dinner my giddiness is much better and my deafness is a hair's breadth not so bad. It is just as usual, worst in the morning and at evening. I will be very temperate; and in the midst of peaches, figs, nectarines and mulberries, I touch not a bit." (59.)
"So giddy and deaf." (59.)
"I would take your giddiness, your headache, or any other complaint you have to resemble you in one circumstance of life." (Mrs. Howard to S.) (59.)
"I am in a middling way, between healthy and sick, hardly ever without a little giddiness or deafness, and sometimes both." (60.)
"I had not been above a fortnight recovered from a disorder of giddyness and deafness, which hardly leaves me a month together." (60.)
"Disorders of giddiness and deafness, of which I have frequent returns." (60.)
"I am still in the same condition, or rather worse, for I walk like a drunken man and am deafer than ever you knew me. If I had any tolerable health I would go this moment to Ireland." (60.)
"The giddiness I was subject to, instead of coming seldom and violent, now constantly attends me more or less, though in a more peaceable manner, yet such as will not qualify me to live among the young and healthy." (63.)
"Nothing but an uncertain state of my health (caused by a disposition to giddiness), which although less violent is more constant." (64.)
"The ten days since, I have been much disordered with a giddiness, that I have been long subject to at certain times." (64.)
"Your complaint and mine are not very different, as I imagine. Mine is a sort of dizziness which generally goes off by the headache. Some learned people give it a name I do not know how to spell, a vertico, or vertigo." (65) (Duchess of Queensbury to S.)
"I have been pursued by two old disorders, a giddiness and deafness, which used to leave me in three or four weeks, but now have continued four months." (65.)

"My health is so uncertain that I dare not venture among you at present." (65.)

"I never ride without two servants for fear of accidents." (65.)

"My head is so disordered by returns of my old giddiness, that I cannot yet venture to take those journies." (65.)

"I have been for three months confined by giddiness and deafness." (66.)

"Constant giddiness in my head and what is more vexatious, a constant deafness." (67.)

"As I was getting on horseback to return, I was seized with so cruel a fit of giddiness which at times hath pursued me from my youth, that I was forced to lie down on a bed in the empty house for two hours, before I was in condition to ride. However, I got here safe, but am this morning very weak, as I always have been for many days after such fits, and in pain for fear of another this day, which makes me write to you while I am able while it be morning." (67.)

"* * grieved that you are so much persecuted with a giddiness in your head." (68) (Mrs. Pendarves to S.)

"I grow giddier as I grow older." (about 68.)

"I have been this month so ill with a giddy head, and so very deaf, that I am not fit for human conversation." (69.)

The Tinnitus and Deafness. The first time that Swift mentions deafness is at the age of 52. This symptom or sequel of migraine may occur at an earlier time of life. It is most rarely complete or sudden in its oncoming, and when it is so, in connection with severe vomiting, it is in all probability the direct mechanical result of the enormous and agonizing strains of the act, sometimes by several methods of production ending in traumatisms of the tympanum, the mechanisms of the middle or the inner ear. How much or how severe may have been the attacks of vomiting in this patient's "collickes," it is impossible to say. A careful reading of the following excerpts clearly brings out two overlooked but decisive conclusions:—First, that Swift never became permanently or completely deaf; that he recovered his hearing perfectly, suddenly, and frequently, demonstrates that there never was any serious organic lesion of the mechanisms of hearing,—that is, the deafness was at least for the most part functional, and therefore was probably due to a reflex neurosis. As his most severe eyestrain was the most certain, severe, and continuous source of his illnesses and infirmities, the reflex neurosis started in the extreme abuse and irritation of his eyes. In the second place, when Swift uses the word, "deafness," he plainly confounds it with the tinnitus which was with him more and more frequently as the years wore on, and which broke ever more tormentingly upon his attention. In a private patient, this maddening roaring and rushing as of "the noise of seven water-mills" or of a "hundred oceans rolling in the ears," to use the words of Swift, existed for 18 years, and nearly drove the man into insanity, until a pair of spectacles ended it all in a day. Swift frequently couples the words "noise and deafness" in a significant manner. Even at 70 Swift speaks

of "a noise in the head which deafens me." The tinnitus was certainly the most burdensome of Swift's symptoms, and, as in private patients, was the cause and reality to which he often gave the name "deafness."

"Once in five or six weeks I am deaf for three or four days together." (52.)

"When my deafness comes on I can hear with neither ear, except it be a woman with a treble and a man with a counter-tenor." "This deafness unqualifies me for all company, except a few friends with counter-tenor voices, whom I call names if they do not speak loud enough for my ears." "I sometimes receive one or two friends and a female cousin with strong, high tenor voices." (53.)

"a Condolence on my Deafness. Mr. Lebrunt was right in my Intentions, if it had continued, but the Effect is removed with the Cause." (53.)

"I have been these five weeks and still continue so disordered with a Noise in my Ears and Deafness that I am utterly unqualifyed for all Conversation or thinking. I used to be free of these fits in a fortnight but now the disease, I fear is deeper rooted, and I never Stir out, or suffer any to see me but Trebbles and countertennors, and those as seldom as possible." (53.)

"Almost three weeks pursued with a Noise in my Ears and Deafness that makes me an unsociable Creature, hating to see others, or be seen by my best Friends, and wholly confined to my Chamber—I have often been troubled with it but never so long as now, which wholly disconcerts and confounds me to a degree that I can neither think nor speak nor act as I used to do, nor mind the least business even of my own." (53.)

"I am but just recovered of my Deafness which put me all out of Temper with myself and the rest of Mankind. My Health is not worth a Rush nor consequently the Remaining Part of my life." (54.)

"So pestered with the return of a noise and deafness in my ears." (56.)

"Tormented with an old vexatious disorder of a deafness and noise in my ears, which has returned, after having left me above two years, and makes me unsupportable to others and myself." (56.)

"Cruelly persecuted with the return of my deafness, that I am fit for nothing but to moap in my chamber." (56.)

"I have been this month past so pestered with the return of a noise and deafness in my ears, that I had not the spirit to perform the common offices of life, much less to write to your excellency." (56.)

"I am now relapsed into my old Disease of Deafness, which so confounds my Head, that I am ill qualifyed for writing or thinking." (56.)

"I have the noise of seven Watermills in my Ears and expect to continue so above a month, but this sudden Return has quite discouraged me. I mope at home and can bear no Company but Trebles and counterteners." (56.)

"As far as my confused head will give me leave to think." (56.)

"So long afflicted with a deafness." (57.)

"I have been above seven weeks ill of my old Deafness and am but just recovered." (about 57.)

"* * * being not in a Condition to converse with any Body, for want of better Ears and better Health." (57.)

"His old ailments returned in great force. He had lived too well at Pope's house; and so he thought had brought back his giddiness. 'Cyder and champaign and fruit,' he wrote, 'have been the cause.' His deafness was worse than ever. 'I have,' he said, 'a hundred oceans rolling in my ears, into which no sense has been poured this fortnight.'" (58.)

"This cruel disorder of deafness, attended with giddiness, still confines me." (59.)

"I am extremely troubled at the returns of your deafness." (59) (Mr. Pope to S.)

"* * * bawl when I am deaf, and tread softly when I am only giddy and would sleep." (about 59.)

"In such a miserable country, such a Clymat, and such roads, and such uncertainty of Health. I would never if possible be above an hour distant from home—nor be caught by a Deafness and Giddyness out of my own precincts, where I can do or not do, what I please; and see or not see whom I please." (59.)

"Ten days ago, my old deafness seized me, and hath continued ever since with great increase; so that I am now deafer than ever you knew me, and yet a little less I think than I was yesterday; but which is worse, about four days ago my giddiness seized me, and I was so very ill that yesterday I took a hearty vomit, and though I now totter, yet I think I am a thought better; but what will be the event I know not; one thing I know, that these deaf fits used to continue five or six weeks, and I am resolved if it continues or my giddiness, some days longer, I will leave this place." (59.)

"I have been now ill about a month, but the family are so kind as to speak loud enough for me to hear them; and my deafness is not so extreme as you have known." (60.)

"I continue very deaf and giddy." (60.)

"Denying myself to everybody, till I shall recover my ears." (60.)

"* * * my old disorder of deafness being returned upon me so that I am forced to keep at home and see no company; and this disorder seldom leaves me under two months." "My Head being too much confused by my present Disorder." (60.)

"Yesterday I relapsed again, and am now so deaf that I shall not be able to dine with my Chapter on our onely festival in the year." (60.)

"A foreign language is mortal to a deaf man. I must have good ears to catch up the words of so nimble a tongued race as the French, having been a dozen years without conversing among them." (61.)

"That very condition of deafness which made you fly from us while we were together." (66) (Pope and Bolingbroke to S.)

"My common illness is of that kind which utterly disqualifies me for all conversation; I mean my deafness." (68.)

"I feel all the infirmities of age, but less of deafness than of any other." (69.) (Lewis to S.)

"I am plagued this month with a noise in my head which deafens me, and some touches of giddiness—my old disorders." (70.)

Headache and Sickheadache. At the age of 59, writing to a friend, Swift says:—

"About two hours before you were born I got my giddiness, by eating a hundred golden pippins at a time at Richmond; and when

you were four years and a quarter old, bating two days, having made a fine seat about twenty miles further in Surry, where I used to read and—, there I got my deafness; and these two friends have visited me, one or other, every year since, and being old acquaintances, have now thought fit to come together. So much for the calamities wherein I have the honour to resemble you; and you see your sufferings are but children in comparison of mine; and yet to shew my philosophy, I have been as cheerful as Scarron. You boast that your disorders never make you peevish." (59.)

This quizzical passage is of suggestive interest in showing that Swift kept the dates of his illnesses very exactly in mind, and also the general nature and order of them. He traces their origin to the stomach, or to an attendant symptom, "collicke," with of course, the unmentionable vomiting. Were the "one hundred golden pippins" the sole cause of the acute indigestion or were they only a secondary one? It is a most common fact that patients have an amusing habit of tracing the diseases of a lifetime to some trivial accident or "fit" of some passing illness in childhood or youth. "Jumping off a box," "a blow on the forehead," "a fall," "ever since the measles," "a bad scare," "scarlet fever broke me down,"—and a hundred similar *post hoc, propter hoc* illogicalities conceal the habitual lack of close observation as regards health on the part of most patients. With Swift's eyes and their abuse (he scorned glasses, and had only "tallow dips" for lighting) he was fated to have "colical pains," "disordered head," "vomiting and sweating," "headache," and most likely, "giddiness" and "deafness" also,—in a word, "Migraine," or sickheadache, or, as Swift says, "sickness in my stomach." So persistently recurrent is the headache, giddiness, etc., that he says he has had attacks of these troubles every year since they began. A few excerpts illustrate:—

"Waked with the headache." (about 46.)

"My health (a thing of moment) is somewhat mended; but, at best, I have an ill head and an aching heart." (52.)

"I have been this past Fortnight as miserable as a Man can possibly be with an Ague, and after vomiting, sweating and Jesuits Bark, I got out to-Day, but have been since my beginning to recover, so seized with a daily Headake, that I am but a very scurvy recovered Man." "My head is too ill to write or think." (53.)

"I believe no head that is good for anything is long without some disorder, at least that is the best argument I had for anything that is good in my own." (58.)

"I am in such a condition of health, that I cannot possibly travel. Dr. Sheridan to whom I write this post will be more particular, and spare my weak disordered head." (59.)

"I am ten times deafer than ever you were in your life; and instead of a poor pain in my face, I have a good substantial giddiness and headache." (59.)

"I am grown leaner than you were when we parted last, and am never wholly free from giddiness and weakness, and sickness in my

stomach,* otherwise I should have been among you two or three years ago, but now I despair of that happiness. I ride a dozen miles as often as I can, and always walk in the streets except in the night, which my head will not suffer me to do." (66.)

"Frenzied Physical Exertion." In other studies, and in the daily practice of discriminating and observant oculists one finds that the great sufferers from severe eyestrain, especially if people of strong wills and good vitality of body, have been compelled to inordinate physical exertions, walking, traveling, riding, etc. The symptom is almost pathognomonic of eyestrain. In every biographic clinic of great literary workers, scientists, musicians, etc., in which this symptom appears, the connection is evident, the significance pointed. The inquiry should suggest to every clinician and especially to every oculist the most painstaking and skilled examination of the refraction of the eyes. In Swift's case, the frenzied physical exertion began early in life and continued until the body was worn out. It was the unconscious wisdom of the organism exaggerated by the patient's conscious and drastic will.

"He was reading at this period about sixteen hours a day. In the midst of this reading, he took that regular and violent exercise which almost to the end of his life he found to be an absolute necessity: exercise of that fierce and excited kind which rather served as an escape from too violent emotions than as an aid to his physical health. At Moor Park, as, curiously enough, at many another spot where Swift lived, tradition names a small hill close to the house, up and down which Swift is said to have run, when the strain of mental excitement made a break of a few minutes necessary." (19.)

"Walk however, he does whenever he can, for the sake of his head." (42.)

"Walking as much as he can for his little disorders toward giddiness (for he has no actual fits)." (42.)

"I have been at this town this fortnight for my health, and to be under a necessity of walking to and from London every day." (43.)

"The two pair of Shoes, extraordinary" which Swift bespoke were, no doubt, by way of preparation for the worst. If the plague came he would do his best to preserve his health by exercise."

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*As usual, one finds that the friends of most of the patients whose biographic clinics are studied, especially if literary, have precisely the same complaints and symptoms. For instance:

"Mr. Pope has his usual complaints of headache and indigestion, I think, more than formerly." (Dr. Arbuthnot to S.)

"My ailments are such, that I really believe a sea-sickness, (considering the oppression of colical pains, and the great weakness of my breast) would kill me." (Pope to S.)

"My ill stomach, and a giddiness I was subject to, forced me, in some of those fits, to take a spoonful of usquebaugh." (Miss Richardson to S.)

"Better, as to headaches; worse as to weakness and nerves. The changes of weather affect me much; otherwise, I want not spirits, except when indigestions prevail. The mornings are my life; in the evenings I am not dead indeed, but sleep and am stupid enough. I love reading still better than conversation; but my eyes fail." (Pope to S.)

"My eyesight is bad, my head often in pain." (Pope to Sheridan.)

"Riding kept him well in Ireland." (43.)

"I am riding here for life." (45.)

"I am riding here for life and think I am something better." (45.)

"You have not kept your promise of riding but a little every day: thirty miles I take to be a great journey." (45) (Miss VanHomrigh to S.)

"I ride about for a little health." (45.)

"He mentions a design he had on leaving for Ireland after he had obtained the deanery, to "walk it" all the way to Chester, his man and himself, by ten miles a day. "It will do my health a great deal of good, and I shall do it in fourteen days." One special walk of his earlier years, also recorded there as if not infrequently taken, deserves a line to itself. It was from Farnham to London, a distance of thirty-eight miles." (45.)

"My head is something better, though not so well as I expected by my journey." (45.)

"I am getting an ill head in this cursed town for want of exercise." (52.)

"I row after health like a waterman, and ride after it like a post-boy, and find some little success." (53.)

"I row or ride every day in spite of the rain, in spite of a broken shin, or falling into the lakes, and several other trifling accidents." (53.)

"If you knew how I struggle for a little health; what uneasiness I am at in riding and walking, and refraining from everything agreeable to my taste." (53.)

"* * * I fear shall continue till my riding days are over." (53.)

"I have not rode in all above poor 400 miles since I saw you, nor do I believe I shall ride above 200 more till I see you again." (54.)

"Yesterday I rode twenty-nine miles without being weary." (54.)

"Riding, walking and sleeping take up eighteen of the twenty-four hours." (55.)

"The Weather has been so unfavourable and continues so, that I have not been able to ride above once." (57.)

"Taking all advantages of fair weather to keep my Health by walking." (58.)

"As to what you call my exercise, I have long quitted it." (60.)

"I am returned to be a rider." (61.)

"Walk ten miles a day." (61.)

"I am sick enough to go to the Bath, but have not heard it will be good for my disorder." (62.)

"I am just going out of town, to stay no where long, but go from house to house, whether Inns or friends, for five or six weeks mearly for exercise." (62.)

"I must ride thrice a-week, and walk three or four miles beside every day." (63.)

"A constant disposition to giddiness, which I fear my present confinement, with the want of exercise, will increase." (63.)

"Valetudinarians must live where they can command and scold, I must have horses to ride; I must go to bed and rise when I please, and live where all mortals are subservient to me. I must talk nonsense when I please, and all who are present must commend it. I must ride thrice a week, and walk three or four miles beside each day." (63.)

"I make a shift to ride about ten miles a-day." (64.)

"I who am so much later in life, can or at least could, ride five hundred miles on a trotting horse." (64.)

"Continuing ill, I write to Mrs. Howard, with my duty to the Queen, took coach to Chester, recovered in my journey." (64.)

"I found myself not well; and was resolved to take a step to Paris for my health." (64.)

"I am extremely concerned to hear the bad state of your health. I have often wished you would be more moderate in your walks; for though riding has always been allowed to be good for a giddy head, I never heard walking prescribed for a strain or any ailment in the leg; and the violent sweats you put yourself into are liable to give colds, and I doubt occasion much of your other disorder." (65) (Ford, letter to S.)

"Fortune has pleased by one stumble on the stairs, to give me a lameness that six months have not been able perfectly to cure." (65.)

"In 1734 he wrote: 'I ride every fine day a dozen miles on a large Strand or Turnpike road.'" (66.)

"For some weeks I was very ill with my two inveterate disorders, giddiness and deafness. The latter is pretty well off, but the other makes me totter towards evenings, and much dispirits me. But I continue to ride and walk, both of which, although they be no cures, are at least amusements." (66.)

"A return of your old disorders of giddiness and deafness; but I still flatter myself that it is not as bad with you as my fears have represented it, which makes me long impatiently to hear how you really are; but I am in hopes your usual medicina gymnastica will carry it off." (66) (Rev. M. Philips to S.)

"Exercise is the best medicine for your giddiness." (66.)

"Riding is your *panacea;* and Bathurst is younger than his sons by observing the same regimen." (66) (Bolingbroke to S.)

"I often ride a dozen miles, but I come home to my own bed at night." (67.)

"My disorder is of such a nature, and so constantly threatening, that I dare not ride so far as to be a night from ——— and yet when the weather is fair, I seldom fail to ride ten or dozen miles." (67.)

"Health is not very good, which I endeavour to mend by frequent riding, and fancy myself to find some benefit by that exercise, although not very effectual." (67.)

"I have not an ounce of flesh about me, and cannot ride above a dozen miles a day, without being sore and bruised and spent. My head is every day more or less disordered by a giddiness." (68.)

"My age is not my disability, for I can walk six or seven miles, and ride a dozen. But I am deaf for two months together." (69.)

"I seldom walk less than four miles, sometimes six, eight, ten, or more, never beyond my own limits; or if it rains, I walk as much through the house, up and down stairs; and if it were not for the cruel deafness, I would ride through the kingdom and half through England." (69.)

"escaping from pain only by frenzied physical exertion." (74.)

"The Dean," writes Sir Walter Scott, "was fond of pranks which bordered on childish sports. It will hardly be believed that he sometimes used to chase the Grattans, and other accommodating friends, through the large apartments of the Deanery, and up and down stairs, driving them like horses, with his whip in his hand, till he had accomplished his usual quantity of exercise." (Hill's Unpublished Letters of Dean Swift.)

(TO BE CONTINUED.)

MEDICAL AND SURGICAL PROGRESS.

SURGICAL SHOCK.

A REVIEW OF RECENT LITERATURE.

By MALVERN B. CLOPTON, M. D.

1. SURGICAL SHOCK.—Crile (*Boston Med. and Surg. Jour.*, Vol. clviii, No. 26).
2. VASOMOTOR RELATIONS.—Porter (*Boston Med. and Surg. Jour.*, Vol. clviii, No. 3).
3. EFFECTS OF INJURY OF THE BRAIN ON THE VASOMOTOR CENTER.—Porter (*Am. Jl. Phys.*, 1907, Vol. xviii).
4. EFFECTS OF UNIFORM AFFERENT IMPULSES UPON THE BLOOD PRESSURE AT DIFFERENT LEVELS.—Porter (*Am. Jl. of Phys.*, 1907, Vol. xv).
5. THE NATURE OF SHOCK.—Meltzer (*Arch. of Inter. Med.*, Vol. i, No. 6).
6. ACAPNIA AS A FACTOR IN SHOCK.—Henderson (*Brit. Med. Jour.*, 1906, Vol. ii).
7. THE COELIAC AND MESENTERIC PLEXUSES AND THEIR RÔLE IN ABDOMINAL SHOCK.—Buerger and Churchman (*Surg. Gyn. and Obst.*, Vol. iv., No. 3. Also *Mitt. a. d. Grenz. Med. u. Chir.*, 1906, xvi).
8. A CONSIDERATION OF THE STATE OF THE AUTONIC NERVOUS SYSTEM IN ACUTE SURGICAL CONDITIONS.—Walton (*Lancet*, 1908, Vol. ii., Nos. 1 and 2).

The most notable work of the past few years attempting to clarify our views of shock, has been done by Crile. To refresh our memory of these observations his conclusions are best given in his own words as delivered before the Harvey Society in January of this year.

"We shall assume as our premises that the fall in the arterial blood pressure is the essential phenomenon; that without a fall in the arterial pressure there is no surgical shock; that the fall in the blood pressure is due to traumatism of the nerve tissue and psychic stimuli. We further assume that the ultimate lesions of shock are the same as those of hemorrhage and that for all practical purposes the phenomena of shock are expressions of altered physiologic functions. We will assume that death from shock, like death from hemorrhage, presupposes the failure of the circulation, producing certain degeneration of the central nervous system: that there is, indeed, but little essential difference, except as to causation, between death from hemorrhage and death from shock. We will further assume that the fall in the blood pressure is mainly due to a

functional impairment or breakdown of the vasomotor centers; that the heart and blood vessels themselves are only secondarily affected, principally by reason of the anemia of low blood pressure; that the cause of the functional impairment or breakdown of the vasomotor centers is due in part to the effect of excessive afferent stimuli and in part to the progressive anemia of these centers, there occurring a species of vicious circle. We will further assume that these shock-producing afferent impulses are but little influenced by general anesthesia, but are totally blocked by cocainization of their conducting paths."

It is possible to differentiate between concealed hemorrhage and shock if repeated and accurate observations are made, as in shock there is no rise of a leucocyte count and little or no change in the hemaglobin or red count, but in hemorrhage the first and immediate change is a rise in the leucocytes and a little later the hemaglobin and red count begin to fall and continue progressively to drop, up to twelve hours after hemorrhage has stopped.

The psychical element plays an important role in the causation of shock and every effort should be made to minimize this influence, particularly as it and the influence of the anesthetic are both in the nature of predisposing factors and in a measure are preventable. A routine surgical anesthesia is not desirable, but various combinations of the means at hand should be used to meet different conditions.

In health there is a normal physiologic balance in the circulatory system, which permits the loss of 3 per cent. of the blood in adult life without any change in pulse or blood pressure. This is due to the control of the vessels by the vasomotor center, which, however, may become exhausted either because of a too long sustained effort, or due to a decrease of the blood supply to this center, as the blood pressure throughout becomes lowered. In shock, this vasomotor center is impaired; and if there is an accompanying loss of blood, the combined influences react on each other, increasing the effect of both. These centers are much impaired in the course of acute infectious diseases, and surgical interference is tolerated less than in health. The technic of operations determines the amount of blood lost and the amount of trauma to tissues, and as the influence of these factors decides the extent of shock, the utmost effort is needed to deal gently with all tissues, particularly those richly supplied with nerves, and to prevent all loss of blood. Thus the prevention of shock is the way to combat it, and the surgical care necessary in operations upon the various regions of the body, is given in detail. In traumatic shock, operation may be performed immediately if the large nerve trunks in the extremities are cocainized beforehand, but if this is not possible it is better to wait for reaction. Collapse with suspended animation arises from anesthetic accidents, asphyxia, reflex inhibition and hemorrhage. Crile finds that the various tissues endure total anemia differently. The excised heart may be made to beat even after 48 hours. The resuscitation of asphyxiated animals, by infusion of fluids with adrenalin, and the use of artificial respiration and heart massage, showed that up to 6 minutes all the functions returned. Of the central nervous centers that of respiration was the most resistant, a moderate respiratory action was obtained as long as 40 minutes after animation was suspended. The vasomotor center was frequently resuscitated after 15 minutes, but that part of the brain presiding over conscious life (the psychic and mental state) was in no instance resuscitated after total anemia of 8 minutes, though always after 4 minutes. This may explain those cases of compression of the brain operated for tumor, hemor-

rhage or abscess, which were entirely successful as far as removing the pressure, but consciousness was never regained. In another group of cases in which, at the time of operation, there was increased intracranial pressure but with a slight consciousness remaining, after operation consciousness is never regained. In these cases it is fair to presume that during operation, as a consequence of the anesthetic, of hemorrhage, of posture of the patient, or of all combined, the slight margin of circulation supplied to the brain, which gives it its flicker of function, was lost for 6 minutes or more. In such instances it is necessary to increase the blood pressure during the entire operation.

By direct transfusion of blood it is possible to raise the blood pressure above normal and keep it there. When salt solution is used even under great pressure it was impossible to raise the blood pressure but slightly and this was not sustained.

"After having found that the blood of normal animals of the same species is physiologically interchangeable; that the blood pressure may, in normal animals, be raised and sustained; that if the transfusion be given with two great rapidity the pulmonary circulation may be so embarrassed as to precipitate an acute and even fatal edema of the lungs; that if the transfusion is given more slowly the blood may be transferred from the pulmonary to the systemic circulation in safety; that an excessive transfusion thus given may cause serious damage to the abdominal viscera, even causing immediate death; and after having established a safe technic and the limits of safety, we then experimentally inquire whether or not, by the transfusion of blood, its volume may be sufficiently increased to fill up the relaxed vascular system, to cause more blood to reach the heart, and so increase the outflowing stream, hence, help to overcome the cerebral anemia of shock, which in turn would be followed by an increased activity of the vicious circle of anemia by the beneficent circle of hyperemia."

Transfusion of blood was sufficient to raise the blood pressure in all grades of shock, and also in over-transfused animals it was impossible to kill by shock alone. In these over-transfused animals, the spinal cord or the medulla might be destroyed, or the animal decapitated, and respiration continued artificially and the blood pressure would be evenly sustained; the elasticity of the overfilled vessels created a resistance against which the heart must act, resulting in a pressure of 80 to 140 mm. of mercury in the aorta, hence in the coronary artery. Thus, in clinical cases with normal hearts, direct transfusion may be used as a specific treatment either to prevent shock or to combat it.

Porter believes a clear distinction should be made between the symptoms of shock and shock itself. There is no dispute about the clinical entity, but shock, on the other hand, is a pathologic state, the data of which are at present hypothetical. The definition which declares that the vasomotor cells are depressed or exhausted by excessive afferent stimuli, and that the fall in blood pressure, etc., are due to this depression, is questioned. May not the change in heart beat and temperature and nervous system be due to low blood pressure? He offers no theory for shock, but hopes his experiments may remove misconceptions. The necessity of studying the parts as well as the whole will be understood when it is remembered that the vasomotor system is composed of three neurons, one in the bulb, a second in the spinal cord and a third outside the cerebrospinal axis. He divides the functions of living into two groups; one fundamental, embracing respiration, maintenance of body, head, etc., the other accessory, representing the skilled movements in

the cortex. In a number of experiments on many kinds of animals with stimulation of the afferent nerves an almost uniform rise of blood pressure occurred and he believes that inasmuch as animals so diverse give practically the same response, that the maintenance of blood pressure belongs to the fundamental functions and consequently can be judged as comparable to like responses in man. In measuring the change in blood pressure he employs the percentile values. That is, if the blood pressure at the beginning of an experiment was 100 mm. in one rabbit and 50 mm. in another, and in each there was a rise of 35 mm. after stimulation, the change should be recorded as 35 per cent. for the first rabbit and 70 per cent. for the second. He found that sciatic stimulation in the as yet normal animal, caused a rise of 28 per cent., but after removal of the cerebral hemispheres a stimulus of equal intensity caused a rise of 47 per cent. Other experiments were done on animals whose intestines had been painted with nitric acid or otherwise treated to produce and give other symptoms of shock. In these animals it was found that percentile fall of blood pressure during shock was little if any less than that obtained before shock appeared when the central end of the depressor nerve was stimulated. He finds further that impulses produced by the stimulation of afferent nerve trunks are able to cause no more than momentary change in the general blood pressure upon which the preservation of the vital functions depends. Apparently there is an excess of strength, a provision that is wasteful, since the fate against which it is created does not enter the ordinary life. It was determined that the absolute change in the blood pressure on stimulation of afferent nerves was about the same so long as the blood pressure at the beginning of the stimulation was not less than 55 mm. Below that point the absolute change slowly diminished. The relative or percentile change, which is the true index of the condition of the vasomotor cells, increases as the blood pressure falls.

The apparent depression of the nervous system seen in clinical shock has given favor to the idea that low pressure is due to exhaustion of the vasomotor center. It must be understood that the brain is not an organ but a region of cells of various functions and no sweeping statements in regard to the separate nerve organs are permissable. Exception is taken to the interpretation put by Crile on some of his experiments on dogs. In these the blood pressure before experimenting averaged 132 mm., while after shock was present averaged 57 mm. and the percentile rise after sciatic stimulation showed clearly that the vasomotor centers were still active.

Meltzer believes that in the diagnosis of traumatic, as well as surgical shock, it is necessary to take into consideration the general mental state, the states of sensibility and motility, and the conditions of the cardiac, vascular and respiratory function. Recent experiments on blood pressure in shock have obscured the issue, as this is not the only symptom of shock. Injuries producing shock do so by favoring the inhibitory side of all the functions of the body, affecting first those functions of less importance, and with increasing injury spreading to the vital, and therefore better protected functions of the nervous system. His theory does not reduce the function to a single principle, to inhibition alone; it assumes that the injuries disturb the equilibrium between the excitors and inhibitors, shifting the tendency toward inhibition. Stimulation of nerve fibres, which usually cause excitation, will still cite, and inhibitory fibres will inhibit, probably better than normal. The insufficient activity of several functions due to the preponderating inhibitory influence, refers only to

the primary effect, because later these poorly acting functions become detrimental to the others, and anemia, asphyxia, or even fatigue might become operative during shock.

He found that there was an immédiate cessation of motility of the viscera of rabbits on opening the abdomen, which had previously been observed as actively motile through the shaved belly wall. Pain was not the cause of this stopping, for with the cord divided at the upper dorsal segment the movements still stopped on opening the cavity. The entrance of air or the effect of cold was not the cause, as the dissection of the skin alone, or stimulation of any sort, caused the stoppage. After total destruction of the spinal cord peristalsis continued, and was better after dissecting the skin from belly, showing that exhaustion played no part. As in all functional activity of the body there are accelerators and inhibitors, so in the gastrointestinal canal the vagus is the motor and the splanchnic and some hypogastric nerves are inhibitory, and cutting of the splanchnic causes an increase of peristalsis. Normally there is never an absence of stimuli, producing tonus, but with an increase of peripheral irritation, like dissection of the skin over the belly, reflex irritation acts through the splanchnic and stops peristalsis. With the cord destroyed no reflexes are possible and normal peristalsis becomes greater. With pain sense as with motility it is found that a wide opening of the abdomen is followed by immediate cessation, like the sudden opening of a door which throws a hush on the lively company within. With this loss of intestinal sensibility there is a distinct reduction of skin sensitiveness over the entire body. In many of the large strong dogs after laparotomy and handling of the intestines, blood pressure, pulse and respiration would remain normal many hours; in fact the animals would have to be killed without showing any evidence of the so-called vascular shock. Other dogs, after 2 or 3 hours, showed some degree of general apathy, insensibility and motor relaxation, with blood pressure to 60 or 50 mm. and pulse 180, respiration irregular, but they would eventually recover. A third group of weak, poorly nourished dogs, would immediately present symptoms of deep shock, no stimulation would bring out any reaction, although the blood pressure was still 70 or 60 mm.

Henderson believes that the tachycardia in shock is due to acapnia, which is the lack of CO_2 in the blood, a condition which was first described by Mosso as existing in mountain climbers due to the rapid escape of CO_2 from the lungs at high altitude. He found he could increase or decrease the rate of heart beat by increasing or decreasing the pulmonary ventilation. He also made blood-gas analyses and found in dogs under anesthesia, that with a decrease of CO_2 in the blood there was an increase in the pulse rate, while the variation of the oxygen content of the blood was very small, when the pulse was at 75 the CO_2 was 39 vol. per cent.; when the pulse was 230 the CO_2 was 7 vol. per cent. Similar results were also obtained when the acapnia was induced by hyperpnoea resulting from vigorous stimulation of an afferent nerve, such as crushing the sciatic. In man forcing himself to breath rapidly and deeply for a few minutes the pulse increased from 65 to 100. When he holds a paper bag over his mouth, each time inspiring some of the expired air, the pulse is markedly slowed, sometimes as much as 10 or 15 beats. If respiration is forced, when using the paper bag, the increase of pulse rate is relatively small. He found also a diminishing blood pressure with the increase of heart beat.

Buerger and Churchman experimented in Breslau on the rôle of the cœliac and mesenteric plexuses in abdominal shock, induced by the ex-

periment of Goltz, who showed that it was possible to produce stoppage of the heart action in a frog by mechanical irritation of the abdominal viscera. They found that the cœliac and mesenteric ganglia were not essential to life in dogs, and their removal was neither attended by evidences of shock nor followed by constant physiologic disturbances. The disturbances, such as a frequent diarrhoea, were too variable to warrant any general conclusions as to the physiology of the ganglia. They found that galvanic and faradic stimulation of these ganglia does not alone suffice to produce a condition of abdominal shock. In animals in which a peritonitis had been produced by turpentine, electrical stimulation of the ganglia was followed by marked shock in most instances, death coming either during the experiment or shortly afterwards. They leaned to the view that stimulation of the ganglia was in some way responsible for the palsy of the higher centers in the medulla, and that a similar mechanism may account for the condition of abdominal collapse clinically observed in peritonitis where the centers are poisoned by the absorbed toxins.

Walton in outlining the treatment of shock divides it into the preventive,—which brings the patient to operation in the best condition, and during the operation causes the least insult from rough tissue handling, loss of blood, or even intoxication with the anesthetic. (Ether is recommended.) Of the curative measures usually unintelligently employed, he advises most strongly against the use of strychnine and brandy. Ergot hypodermatically gives a constriction of the vessels for about 20 minutes. Infusion into the vein of salt solution with 1 to 160.000 of adrenalin, is most efficacious, but can be overdone, and the effect lasts but a few minutes, so that the injection has to be continuous. The best method of administering suprarenal extract is by continuous rectal injection of salt solution with a drachm of the extract to a pint of solution, of a temperature between 108° and 112° F., flowing at the rate of a pint an hour. He claims that the adrenalin is absorbed unaltered and is efficacious. He makes no mention of direct transfusion of blood.

FLEXNER'S SERUM IN THE TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS.

A REVIEW OF RECENT LITERATURE.

By Alfred Friedlander, M. D.

1. An Analysis of 400 Cases of Epidemic Cerebrospinal Meningitis Treated with Antimeningitis Serum.—Flexner and Jobling (*Archives of Ped.*, October, 1908).
2. Serum Treatment of Meningococcic Meningitis Based on a Series of Forty Consecutive Cases.—Dunn (*Ibid.*).
3. Serum Treatment of Meningococcic Meningitis.—Churchill (Ibid.).
4. Summary of Cases Treated with Flexner's Serum.—Knox and Sladen (Ibid.).
5. Cerebrospinal Meningitis.—Miller and Barber (*Jour. A. M. A.*, June 13, 1908).
6. Serum Treatment of Cerebrospinal Meningitis.—Koplik (*Medical Record*, October 3, 1908).
7. Epidemic Cerebrospinal Meningitis.—Chase and Hunt (*Archives of Internal Medicine*).

While it must, of course, be admitted that the last word has not been spoken as yet, with reference to the absolute value of Flexner's serum treatment of epidemic cerebrospinal meningitis, it is unquestionably true that the serum is of very distinct value in lowering the mortality rate of a most dreadful disease. The very recent publication of the papers read at the last meeting of the American Pediatric Society, when Flexner himself made a summarized report of the cases treated, is most opportune. The advent of the colder season with its probable increase in meningitic morbidity, makes the subject at this juncture all the more timely.

Flexner's own presentation of his summary, his attitude toward his discovery as evinced by his discussion, is a model of scientific clearness and of objective criticism. A careful reading of his original paper is warmly recommended to those interested in the subject.

In the 400 reported cases, a bacteriologic diagnosis was made in every instance. Excluding the cases which did not live 24 hours after the first injection of the serum (seven in number, either moribund or fulminant), there were 393 cases treated with the serum. There were 295 recoveries (75 per cent.) and 98 deaths (25 per cent.). [A rate much lower than has ever been obtained heretofore by any other method of treatment.—Ed.]. In general terms, the results were better the younger the patients and the earlier the treatment was begun. Patients under one year of age did not do so well, however. According to the time of first injection with reference to the duration of the disease, 361 cases were analyzed.

In cases where treatment was begun on the 1-3 day of injection, mortality was 16.5 per cent.; 4-7 day of injection, mortality was 23.8 per cent.; later than 7th day of injection, mortality was 35 per cent.

The beneficial results of early injection would thus seem sufficiently obvious. But, to quote the author, "so long as the diplococcus is still present in the meningeal exudate, and mechanical damage to the anatomical structure is not irreparable, the employment of the serum holds out hope of considerable benefit."

Of 273 cases which could be analyzed, 200 terminated by lysis, and 73 by crisis.

With reference to duration of disease under serum treatment, it may be noted that in 228 recovered cases, the average duration of active symptoms was eleven days.

Influence on diplococci, spinal exudate and leucocytosis. Very soon after the serum injections, the diplococci tend to become wholly intracellular. They soon also present certain changes in appearance, such as swelling and fragmentation. They stain diffusely and indistinctly and coincidentally tend to lose their viability in culture. The exudate loses pus cells rapidly; indeed, some cases, with distinctly purulent exudate, have recovered under serum treatment. Correlate with the disappearance of the diplococci and the clearing of the exudate, the general lucocytosis diminishes rapidly. The reverse of this phenomena is noted in cases not responding to the serum or responding imperfectly. The general statement can be made, that progressive increase in the turbidity of the exudate, rise in leucocytosis, and greater persistence of diplococci with retention of vitality after several serum injections, are unfavorable symptoms. Speaking generally, also, it may be said that relapses are ushered in by increased exudate, leucocytosis, and reappearance of diplococci though they may not regain the power to grow *in vitro*. Relapses were not very frequent in the series. They are not apt to be fatal if the serum is pushed.

In most cases, recovery, if it ensue, is perfect. Very few permanent complications were noted. [This is also in contrast to recovery in meningitis without serum treatment where physical or mental defects are almost the rule.—Ed.]. The only persistent defect noted was deafness and, more often than not, it was noted early before the injections were begun.

Dunn, who reported 40 cases, serum treated, had 31 recoveries (77.5 per cent.) and 9 deaths (22.5 per cent.); of the 31 recoveries, only two showed permanent defect, one deafness, and the other deafness and blindness. Comparing this mortality with the mortality of other years, without serum treatment, Dunn finds that at the Children's Hospital in Boston, the mortality before serum treatment had varied from 58 to 80 per cent. of all cases. Of these 9 fatal cases, five were seen very late (thus emphasizing the necessity for the early use of the serum). The three principal (clinical) effects of the injections that Dunn found were, (1) fall of temperature, (2) improvement in the patient's general condition, (3) cutting short of the duration of the disease. Dunn believes that the serum, if it be at all active in a given case, causes a cessation of the active process, the resulting course of the disease depending mainly on the extent of tissue damage already done.

Churchill reports 9 cases, serum treated, with 7 recoveries (70 per cent.) all without serious sequelæ. He calls particular attention to the change in the patient's mentality following the injections. The patients are brighter and more rational. It is not uncommon to see a patient lying with head markedly retracted yet perfectly conscious and without pain. The writer of this review noted a similar finding in a case treated with the serum where the rigidity persisted after the mentality had cleared considerably. Churchill advises lumbar puncture in suspicious

cases, with immediate serum injection if the spinal fluid be cloudy, without waiting for bacteriologic tests. If these confirm the diagnosis, the injection is to be repeated within 24 hours.

Miller and Barber report an epidemic in Porterville, Cal. In 12 cases, the serum was not used and only one recovered, a mortality of 91.6 per cent. Four were given serum. Three recovered and the fourth was recovering but the supply of serum was exhausted and death ensued.

Chase and Hunt report 12 cases treated with serum at the Akron City Hospital. Of these 9 recovered, three died (mortality of 25 per cent.). Of 10 patients outside the hospital during the same epidemic, who did *not* receive the serum, one recovered and 9 died (mortality of 90 per cent.). The hospital cases were all very severe, and one of the two fatal cases was moribund when the first injection was given.

Knox and Sladen report the cases treated with serum at Johns Hopkins Hospital for the year ending in May, 1908. Of 21 cases, 18 recovered, 3 died (mortality 14 per cent.). Of 12 cases under 12 years of age, only 1 died (mortality of 8 per cent.). They note the same general improvement in patients' condition, subjective and objective, referred to by other observers. They note particularly that pressure symptoms seemed relieved by the serum injections even though the fluid withdrawn from the cerebrospinal canal was replaced by a greater volume of serum. These authors found the polymorphonuclear leucocytes increased in the spinal fluid after the first injection in all cases (chemiotaxis). This positive chemiotaxis and the promoted phagocytosis they found to be constant. They believe that the serum is both antitoxic and bactericidal.

In the discussion which followed Flexner's report, Koplik called special attention to the variability of the disease in its sporadic and epidemic form, the sporadic cases being as a rule milder than the epidemic. Of 13 cases treated with the serum, 2 died, both being less than 1 year of age. He holds that the Flexner serum is certainly a factor to be reckoned with in the treatment of cerebrospinal meningitis.

Holt presented statistics of the 1904 epidemic in New York. Of 2350 cases, all treated without serum, the mortality was 75 per cent. Of 350 cases with known duration, without serum, 50 per cent. lasted 5 weeks or longer, a striking showing in comparison with Flexner's records. In epidemic years every meningitis patient under 1 year, in Holt's hospital service, died.

Closing the discussion, Flexner showed reports from an epidemic at Belfast, Ireland. Outside the hospital, cases treated without serum showed a mortality of 80 per cent. as contrasted with 26 per cent. mortality in hospital where the serum was used.

The serum itself is bacteriolytic. It does not produce in test animals neutralization of the toxin according to the law of multiples, as do diphtheric and tetanic sera. The guinea pig can be protected up to a certain amount only. In the use of a serum of this class, results depend to a considerable degree on the concentration. The antibody should, therefore be present in a certain concentration. Flexner believes that th success of the serum has been due to the fact that a bacteriolytic and somewhat antitoxic substance is brought into direct contact with the focus of the disease. The poison of the diplococcus is largely a local one, acting chiefly on the nervous system. Hence the endeavor to bring the curative agent in direct contact with the focus of the disease which is a slight departure, as Flexner observes, from the general notion of the manner in which infectious processes are influenced by curative sera.

GENERAL SYPHILIS IN THE RABBIT. OPSONINS.

A REVIEW OF RECENT LITERATURE.

By Carl Fisch, M. D.

1. Clinical Picture of General Syphilis in a Rabbit.—Grouven (*Deutsch. Medicin. Woch.*, 1908, No. 38).
2. The Practical Signifance of Opsonins.—Jürgens (*Deutsch. Med. Woch.*, 1908, No. 38, V. 15, p. 1648).
3. The Practical Significance of Opsonins.—Neuberg (*Deutsch. Klin. Woch.*, 1908, No. 25).

(1). The susceptibility of the rabbit to the infection with spirochaete pallida has so far been found to be limited to the corneal and to intraocular inoculation of the eye. The observations of Siegel on other lesions of secondary character are doubtful as to etiology. The absence of a general immunity by the inoculation of one eye, that was not inoculated, after the recovery of the other from the specific process, did not point to a generalized infection, but only to a local reaction analogous to another corneal and intraocular infection by the virus of variola and vaccinia, where one lesion on the cornea produces no immunity of the other and of the whole organism, especially not of the skin. That syphilis can become a general infection in the rabbit, in appearance very similar to the process in human syphilis, is proved by the recent observation of Grouven. In a rabbit that developed a typical secondary papule of the prepuce fourteen and one-fourth months after an intraocular inoculation, the character of the papule was established, clinically, histologically and by the presence of spirochaete pallida. After a month a large and rapidly developing tumor-like mass arose, that histologically, proved to be syphilitic and contained only spirochaete, and in a short time, dyspnoea and general debility set in, with very typical symptoms of general syphilis. The nasal openings were almost closed by crusts; after the removal of these crusts a red, partly eroded, mucosa appeared, containing immense numbers of spirochaete pallida. At the same time there appeared an extensive papulo-pustulous exanthema on the skin of the back, partly serpiginous in character, ulcerating and with crusts like those in rupia. In sections and smears, spirochaete pallida was demonstrated. The inoculated eye, that had after infection returned to a nearly normal condition, showed again pronounced and destructive keratitic changes. The conjunctival secretion contained numerous spirochaetae. Later, a fresh infiltrate, containing the same organisms in great numbers, was observed on the prepuce. A few days later the animal died in extreme exhaustion and emaciation, and the autopsy revealed the following conditions: The right middle lobe of the lung was totally hepatized and appeared grayish white. The right testicle and epididymis were enormously enlarged, partly necrotic, and showed on the surface numerous tubercle-like nodules. In the pelvis, an enlarged lymphatic gland, caseous in the center, was found. The internal organs showed no changes macroscopically; microscopically, the search for spirochaete was negative

in smears from lung, liver and spleen. The sections were positive in the testicle, epididymis, in the lymphatic glands, in all of the papules and other cutaneous lesions, and in the kidneys. The findings in lung and liver were doubtful. The cornea also gave a positive result. The course of the disease is analogous to the human disease, combining in it primary, secondary and tertiary lesions. There was, clinically, no possible doubt of the etiology of the disease. The correctness of this diagnosis was decisively evidenced by the inoculation of material from some of the papules into two monkeys, both of which developed typical specific lesions with the presence of spirochaete pallida. The observation is so important that the detailed reporting of it is justified.

The uncertainty whether the pneumonic process in the right lung was syphilitic is fully appreciated by the reviewer. In a case of secondary syphilis of early date, that came to autopsy after a lobar pneumonia, which was clinically atypic, the whole left lung was found completely consolidated, of grayish white color and very firm. The appearance was so typically that of an ordinary croupous pneumonia, that little attention was paid to it. My attention was called to the real condition by the absolute absence of any form of bacteria in the smears made from the surface of the cut section. A staining after Giemsa revealed few spirochaetae but showed a great number of formations that, from their staining and often from their shape, could be suspected as being fragments of this organism. The Levaditi specimens proved this suspicion to be justified, although after the ordinary stains not a single bacterium could be found; and only the extremely fibrous and infiltrated condition of the alveolar walls, and the characteristic vascular and bronchial lesions, showed that syphilis was present. The Levaditi specimens showed numerous spirochaetae in the thickened pleura and in the septa down to the alveolar walls. The walls of the bronchial structures were positive. The alveolar contents consisted mostly of large mononuclear cells, that, almost uniformly, were filled with a mass of minute irregular bodies silver stained. A close study of this material revealed, in the first place, in some of the cells, single, intact spirochaetae, and fragments that could with certainty be identified as broken spirochaetae. The change from these fragments to the smaller particles can be followed up in many of the cells, so that the conclusion that this picture is the phagocytic work of the exudate cells must be made. In combination with the typical spirochaetae in the connective tissue and the process of fragmentation of the organisms in the exudate, we see only what can well be studied in the frequent syphilitic abscesslike gummatous formations of the lungs of macerated fetuses, where, in different strata of the liquifying tissue, all the stages, from the intact spirochaetae just taken up by a mononuclear, and sometimes also by polynuclear, cells, to the fragmentation, can be seen and finally result in the minute granules, often retaining the arrangement in the typical turns. The condition here is identical with that found in Grouven's case of a rabbit pneumonia and the case of secondary syphilis mentioned here. In congenital syphilis the cells appearing in the liquifying gummatous lesions do the same, as the exuded cells in the infiltrated alveoli of the lung. In both cases the pneumonic process was syphilitic, a typical lobar pneumonia due to spirochaete pallida.

(2). The work and consequently the literature on Wright's opsonin theory, for the last two years enthusiastically emphasizing the importance of this so-called revolutionary discovery, has gradually dwindled down to single reports of observations in this line, made by

observers who took the works of Wright as the expression of an established fact. Voices raised against this certainty of the conclusions drawn, were heard but not appreciated. It is, therefore, a refreshing experience to see that the latest publications and discussions on opsonins are being directed in the critical trend of thought that was entertained by observant thinkers and exact workers from the beginning of the enthusiasm. The intuitive objection to the teachings of Wright was undoubtedly against the method used for the determination of facts and the estimation of their practical value. In work on opsonins it is absolutely impossible objectively to make definite conclusions. The material presented and from which conclusions are drawn, is unavoidably subjective in character and completely dependent on the personal equation of the observer. It is possible, with the method of Wright, to obtain, after long experience and trial, comparable findings so far as the single investigator is concerned; but a general standard as to method, is impossible after Wright's procedure. Simon has tried to alterate this subjectivity by another arrangement that assures a seemingly higher uniformity of the results on account of its greater simplicity; but the subjectivity remains about the same. The almost uniform opinion is to-day that the method is not exact, and cannot be considered as a basis for theoretic problems. As to diagnostic and prognostic importance, the variations from the so-called opsonic index are so slight that they fall, very often, within the range of the so-called normal index that is considered as the basis, but varies in the most healthy individuals, in man and animals, within the limits that occur in diseased conditions. It is a fact that in the most healthy individual the opsonic index varies constantly and that such a thing as a normal index does not exist. Jürgens especially insists that even with a routine, established after long practice, the method cannot permit of conclusions as to the course of the disease. It is not clear how the clinical experiences reported by Wright and many others can be taken as proofs of the truth of his explanation. Its main point lies in the adaptation, in time and quantity of the various injections, to the course of the opsonic curve. This point is made a priori futile by the fact that the effect of any injection can only be determined by the opsonic curve a shorter or longer time after the administration. The injections themselves, therefore, more or less, are given in observing the clinical condition of the patient, that is, they are arbitrary. Although, should Wright's theory be correct, which is not proved so far, the clinical results that he and others have obtained by following his directions, cannot be doubted, there is no proof that a change in the opsonic curve has anything to do with the improvement.

The general, easily accepted, assertion that the beneficial effect of the treatment with killed bacteria of the individual case, is due to the opsonic changes, meaning the increased opsonic index producing it, is the great mistake that has caused the late enthusiasm for it. In fact, the two things, the opsonic index and the bacterial injection, have only a general biologic reaction to each other; and, in the first place, there is no proof whatever that the action of opsonins, the stimulation of phagocytosis of the white blood cells, is a real factor in establishing immunity, or a simple stimulation to scavenger work. It would be going too far to say anything in extenso on the views that are entertained to-day about the meaning of phagocytosis to the infected organism. It would lead to the discussion of direct action on the microorganisms, simple mechanical removal of inert and, only by its presence, irritating material, or by the possibility of the removal by this process of the disintegrating

products, the endotoxins, derived from disintegration after death of bacteria through bactericidal substances. For the latter possibility the work of Buxton has furnished much very suggestive and original material. All these problems are to-day unsolved; the interpretation by a procedure that, in its nature, is not controllable, will not justify its being pronounced the solution of these obscure riddles. The point is, that the opsonic treatment has absolutely nothing to do with the clinical results by the injection of homologous bacteria. The fact that the individual bacteria are the most apt to be used as immunizing material in chronic infections, was well known before Wright made his views public. This was known long before we knew of opsonins, and extensive investigations were made in this direction; for instance, for the individual tubercle bacilli. There is nothing new in the use of bacterial injections. The only merit of Wright's work is, that he has called attention to this method as being full of hopeful prospects. But the method is not based on opsonins, but on factors established by work that in its character has led to absolute, as far as we can use this word, exactness of the establishment of the relation of the interesting factors in these processes. The correctness of these statements can be easily shown in almost mathematical precision while, to use Jürgens' word, for the opsonins the time of theoretic discussion has not come yet. Uhlenhuth calls everything done so far in this line only a preliminary, orientating experiment.

DIAGNOSTIC AND THERAPEUTIC NOTES.

SULFAS CHININI IN MORBUS BASEDOWII.—Twenty years ago Paulesca (*Journal de Médecine interne,* p. 284, 1898) advised large doses of sulphate of quinine in the treatment of Graves' disease, and claimed to have obtained better results with this treatment than with any other. However, only a few physicians followed his advice and nothing has been heard of this treatment for several years. In the *Bulletin* of the Académie de médecine, 25 fevr. 1908, Lancereaux reports a series of over 20 cases of Basedow's disease treated according to Paulesca's advice. In every case more or less good results were obtained. He advises that the quinine be given for a long time, and has his patients take 2 to 3 doses, of 500 mgr. sulfas chinini each, during supper, at intervals of one-fourth of an hour. All the symptoms of the disease disappeared gradually, the struma last of all. In a few cases a return of the symptoms occurred after the treatment was discontinued. Lancereaux thinks that a contraction of the blood-vessels of the head is produced by the continuous use of the quinine and that the dilatation of the vessels in Basedow's disease is relieved in this way.

URTICARIA SYMPTOMATICA INFANTALIS, also called lichen urticarus, or urticaria papulosa, may be caused by parasites (pulex, cimex, etc.); by dentitio (reflex), by autointoxication from various organs (thyroid), while anemia, rachitis, etc., predispose the patient to this troublesome disease. Sometimes no cause can be discovered and the disease is then catalogued under the neuroses; in other cases it is followed by a typical prurigo of Hebra. Scharff (*Therap. Monatshefte,* Nov. 10, 1907) treats these cases with ichthyol internally and externally, not forgetting to diet the patients, and speaks highly of his good results with this treatment. He gives 10 drops of a 10% solution of ichthyol three times a day to a baby under one year; 10 drops of a 30% solution three times a day to a child of three years, and 5 drops of a 50% solution three times a day to a child of six years and over. Externally a lotion of the following combination is applied twice daily, followed by an amylum dusting powder: Ichthyol, 5.0; Glycerin, 5.0; Aqua dest., ad. 100.0. Or an ointment as follows: Ichthyol, 10.0; Adipis lanal, 20.0; Vaselin flav., 40.0; Aqua dest. 100.0. Any disturbance in the gastro-intestinal tract should be looked after.

SPECIFIC TREATMENT OF TUBERCULOSIS PULMONUM.—Ritter (*Deutsch. med. Wochenschrift,* 1908, No. 29), Superintendent of the Sanitarium of Hamburg, has been treating his patients without tuberculin during the years 1899-1903, while tuberculin has been used during the last five years. He is very much pleased with a careful tuberculin treatment. Best results are obtained in patients without fever in the first and second stage of the disease, who have sufficient resistance, but also in the third stage marked results may be seen. His favorable opinion of the tuberculin

treatment is based on the *historicæ morbi* given in his article, and in the marked increase of improved and discharged patients during the last five years. No danger is attached to the tuberculin treatment, if carried out under the necessary precautions. The treatment should last at least three to four months and should not be neglected in any sanitarium. In private practice, however, this treatment meets with too many difficulties to be used.

Surgical Treatment of Sciatica.—Alfred Pers (*Deutsch. med. Wochenschrift,* 1908, No. 29), in 1906, published the technic of an operation for chronic ischias in which adhesions of the nerve were loosened. Since then 42 patients have been operated by him for this trouble, of whom 40 were cured by the operation while only two had a recurrence. The adhesions are most often found along the femur, but have also been found near the foramen ischiadicum. In the latter cases, an incision in the gluteus magnus was necessary. The neurolysis is the only method that gives constantly good results in ischias of long standing.

Treatment of Acute Rhinitis.—H. Löwy (*Münch. med. Wochenschr.,* 1908, No. 29) advises the following treatment in combination with the ordinary measures: Profuse perspiration, nasal respiration, etc. His best results were obtained in acute cases, and in cases of several weeks' standing. A swab of absorbent cotton, soaked in a 10% solution of protargol, is placed against the anterior part of the middle concha and left in place for a few minutes. The application is made on both sides, once or twice daily. In case the patient has to do the treatment himself, a 2 to 5% protargol solution is dropped in each nasal cavity twice daily. Inhalation for 5 to 10 minutes, 2 or 3 times daily, of a few drops of a mixture of menthol 4.0 and camphor 2.0 in a test tube with hot water, helps the cure a great deal and gives the patient much relief.

Syphilis Therapy in Children.—A. Eysell (*Münch. mediz. Wochenschr.,* 1908, No. 24) treats the coryza, in children suffering from hereditary lues, by blowing 100 mgr. of a mixture of equal parts of calomel and sacchrum lactis into each nasal cavity. The symptoms disappear in a few days, while also the general condition improves greatly by continuing this treatment. The same good results were obtained in adults with mucous patches or ulcers in the nose or on the tonsils. In children older than ten years 0.1 to 0.3 calomel, mixed with 0.05 to 0.15 sacchrum lactis, was used three times daily. Deep inhalation brings part of the powder into the larynx and trachea. Luetic lesions in other parts of the system also disappeared under this treatment.

Prophylaxis in Acute Otitis Media.—H. Obermüller (*Münch. med. Wochenschr.,* 1908, No. 24) has been using the following treatment—first suggested by Kessel—with happy results for the last 15 years. In case the disease was not older than 24 to 48 hours, a cure was often accomplished in 24 hours. Drops of the following combination are dropped in the ear every hour: Extr. opii, 1.0; Glycerini Anhydrici, 10.0. An osmotic change takes place between exudate and glycerin and the opium penetrates into the middle ear; this is shown by the drowsiness of the little patient.

CORRESPONDENCE.

PARIS LETTER.

(FROM OUR OWN CORRESPONDENT.)

Nothing in medicine is more remarkable than the history of the alterations in articulate speech, which have been called aphasia. One can say with truth that the point of departure from the normal, was first described according to the inexact and puerile conception of the German phrenologist Gall, who arrived at conclusions in regard to intellectual tendencies in man and even in animals from the exterior configuration of their crania. He placed, without any scientific reasons, "the seat of articulate speech" in the orbital region of the frontal lobes. But though this conception was erroneous, it had happy and unforeseen consequences, in so far as it served as a basis for the doctrine of cerebral localizations.

The French surgeon, P. Broca, published on April 18th, 1861, in the *Bulletin of the Anthropological Society*, the results of an autopsy on one Leborgne, who, in life, had lost the faculty of articulating words well, though his tongue was not paralyzed, his intelligence not disturbed, and who apparently comprehended things that were said in his presence. At the autopsy Broca found in the left cerebral hemisphere an extensive area of softening occupying the third frontal convolution, which was prolonged into the parietotemporal region. At that time it was believed that the softening was a progressive affection, developing centrifugally, and that the central part of the lesion, in Leborgne's case, corresponded in reality to the left third frontal convolution; in other words, the convolution of speech,—or, as it was named by Broca, the convolution of Broca. Strange to relate, Leborgne's brain, which is conserved at the Dupuytren Museum, was never dissected; therefore the contradictory statements in regard to autopsies, published at the time, should not attract attention, though there must have been great enthusiasm on account of the new doctrine.

But the subject of aphasia, as it was then conceived to be, was ere long the object of conflicting investigations. Here it would be well for us to remember the distinction made by Wernicke, between sensory aphasia, the seat of which he placed in the left temporal region, and motor aphasia, due to a lesion of Broca's gyrus. Kussmaul followed with a division of sensory aphasia into two new forms: word-deafness and word-blindness, which two, with motor aphasia and agraphia, constitute the four varieties that the teachings of Charcot have rendered classic. But it was not long before one recognized that these typical cases rested on theoretic ideas; that they were the outcome of philosophic ideas, and did not agree with clinical facts. Who does not remember the eighteen varieties of aphasia based on many hypotheses—cortical, subcortical, transcortical, and others.

To M. Pierre Marie belongs the honor of having declared that there is at present a necessity to revise our former ideas of aphasia, by introducing anatomo-clinical researches in opposition to the ancient doctrine which was too exclusively philosophical and abstract. Let us at least examine the fundamental ideas of Pierre Marie's doctrine. The first

thing to do is to localiże articulate speech elsewhere than in the convolution of Broca. For there exist convincing reasons that the third frontal lobe can be destroyed without producing aphasia, and there are cases, not less convincing, of aphasia without any alteration in the convolution of Broca. What is then the cerebral localization of aphasia? Certain facts observed by M. Marie have led him to the following conclusions: Each time that one can diagnose, during the life of the invalid, a pure motor aphasia of the subcortical type, or anarthria, one encounters in the brain at autopsy a softening or a hemorrhage in the lenticular zone. Each time that the invalid presents the ensemble of the characteristic signs of Broca's aphasia, one observes in the cerebral hemisphere a double area: one area situated in the lenticular zone, the other in Wernicke's zone or in the fibres which issue from it. Broca's aphasia consists then, at the same time, of Wernicke's aphasia in addition to pure motor anarthria, or to anarthria itself; the former distinction between endocortical motor aphasias and subcortical aphasias no longer obtaining in reality.

Thus we see that aphasia presents two clinical types, Wernicke's aphasia (absence of anarthria) and Broca's aphasia (with anarthria). In both cases the aphasic syndrome is identical, but in the second there should be superadded the syndrome of anarthria. Moreover, in all aphasiacs all the modes of speech are more or less affected and there exist, in divers degrees, word-deafness, word-blindness and agraphia. Finally, with aphasiacs there exists a diminution in the intelligence, which is more or less accentuated in its effects on the memory, on the association of ideas, and on attention.

Thus after a rigorous revision of the question, the study of aphasia has at last been scientifically described, for all researches have resolved themselves into these fundamental ideas: The third frontal convolution is not the center of speech; this is located in Wernicke's zone; and there also exists a center of verbal articulation occupying the lenticular zone, the destruction of which causes anarthria.

October 20th.

OBITER DICTA FROM FOREIGN JOURNALS.

MEDICAL DICHOTOMY.

The question of medical dichotomy—the division of fees—is not peculiar to any one country but has some significance in all. We are not in the position to state with authority how far the evil has spread in this country, but that it is with us, to a greater extent than it ought to be, statistics, if carefully gathered, would undoubtedly show. Dr. Louis Rénon in a lecture recently delivered at the Mercy Hospital (l'hopital de la Pitié) at Paris, handles the subject without gloves; and that it should be riddled with scorn and contempt no right-minded critic will deny: The question of medical fees induces me to speak to you of another matter, very delicate, indeed, namely, dichotomy. I shall be very frank with you in my explanations, for it seems to me the height of folly to avoid a subject because, in certain quarters, it is regarded with the sort of apprehension which resolves itself into the feeling that to ignore an evil is the best way to stop it. According to Larousse, dichotomy is defined as follows: An understanding with the doctor called in consultation and the surgeon who operates, that the doctor who procures the patient gets his share of the fees. Dichotomy, then, as defined in the dictionaries, is unquestionably the result of conditions which are responsible for the medical crisis in the careers of all those doctors whose means of livelihood are fraught with great difficulties. And not only has dichotomy gradually spread into all ranks of medical practitioners, as would a canker, but the minutest details of a medical career are influenced by its nefarious teachings.

Dichotomy is to-day the gospel of surgeons, general practitioners, specialists, pharmacists, bandagers, herborists, and even of porters and waiters at hotels. This degradation of dichotomy has caused three important undesirable changes: the commercialization of medicine, the suppression of independence in medicine, and the debasement of medicine as a moral force in the eyes of the public. Needless to add, gentlemen, I am absolutely opposed to dichotomy, for the commercialization is so great that the doctor is nothing but a commission merchant. Independence on the part of a medical dichotomist is a farce; it has happened, in many cases, that he is prevailed upon to cast his vote for a surgical interference even when an operation is unnecessary. Moreover, to enjoy the favors resulting from this system, he consents to the operation being performed by an inferior surgeon, though fully aware that a more efficient one could do better work. His conscience has a laxity that allows it enough latitude to face any ordeal. As for his vacillations, the less said the better. In a word, dichotomy undermines all the best and highest qualities of the doctor.

Finally, dichotomy lowers, in the regard of the public, the moral status of the doctor. For not only is the matter mentioned in the dictionaries, but in certain guide books, specially prepared for strangers visiting Paris, there are blazoned forth the names of surgeons who divide their fees with the doctors.

Recently some of the leading journals have inveighed against dichotomy; in fact, have started a campaign against its many evils.

In the early part of January a well-known daily paper published a long article complimentary of the science of medicine, especially of surgery, as practiced in Switzerland where dichotomy is unknown; the author laying stress on the decided differences between an operation performed at Lausanne and one undertaken at Paris. In the June number of the *Revue des Deux-Monde,* Professor Charles Richet in his essay on La médecine, les médecins et les Facultés de médecine (Medicine, Doctors and Medical Faculties) says, in speaking of the evils accompanying dichotomy, that he denounces it because "both surgeon and physician are made less honorable by practicing it." These antagonistic views should give us heart, as only a few years back one of the most serious French newspapers, in its afternoon issue, printed an article in which dichotomy was lauded because it helped financially the so-called medical underdog. But what is most unfortunate is the fact that the public to-day is fully aware of all the decided evils of the system; and its esteem and regard for the whole profession is waning, if not already nil.

Fortunately, both for the public and the practice of medicine, though the disgraceful procedure is at present in full swing, there are signs that it has reached its apogee. I should not be surprised if it soon fell into disrepute, and for this reason: the exigencies of the doctors are growing at so fearful a rate that the heretofore pleasant arrangement between surgeon and doctor can not obtain much longer. The latter has already increased his portion from 50 to 75 per cent. of the whole fee; and with our knowledge of human nature we should feel justified in saying that even the most enthusiastic surgical dichotomist will ere long rebel. Again the public, enlightened as to the true inwardness of dichotomy, is already giving signs of being mistrustful. Patients have been known to refuse to be operated by the surgeon selected by the physician. Except when an operation is imperative they consult many surgeons; they inquire if the operation is necessary; they inform themselves as to the ability and standing of a surgeon; and it is not unusual for a medical dichotomist to see his patients elude him, despite his supposedly strong hold on them. Many patients, thoroughly informed as to the inner workings of the system, prefer surgeons of great renown; and their reasons for consulting those who demand exorbitant sums for their work, were described by me in an article which I published in the *Journal des Practiciens,* March 7, 1908, in which a man of the world bitterly complained to me of the gross irregularities of many surgeons. When I protested against his severe strictures, and attempted to show him that the majority of French physicians and surgeons were honorable and conscientious men, devoted to the best interests of their profession, he replied: "You are right to uphold your confreres but as regards myself and my wife and children, we always consult the famous surgeon X, or the celebrated doctor Z. Of course this is most expensive, but the great advantage which I derive is that both surgeon and doctor being very busy men, there is absolutely no danger of their meeting in consultation, either to advise an operation or the prescribing of unnecessary drugs. Now don't tell me I am doing the medical profession an injustice because I am brutally candid in my remarks." Fortunately for medical men, this case is to-day not an isolated one; and as an indication of the trend of thought it illustrates what many would express had they the courage of their convictions. Let us hope that before long dichotomy will be relegated to the limbo that already contains many of the barnacles which the weaknesses of mankind have allowed to fasten on members of a profession which ought to stand for honor, integrity and probity.

HISTORICAL NOTES.

JOHN KEATS.

Students of heredity will look in vain for any support of their theories in the life of the poet who has been called "the apostle of pagan beauty." That good can come out of evil no one in these days of large ideas, as instanced in the teachings of universal brotherhood, will deny; but that the son of an ostler and of the daughter of the proprietor of livery-stables should be other than an ordinary man, must be taken as another instance of a mental manifestation that is too eccentric and too wayward to fit

John Keats

CAT.

in with the correct and measured teachings which science applies to obscurities for the understanding of their presence. Now about the only ordinary thing the immortal author of the "Ode to a Nightingale" did —and even this can not be traced to his lowly ancestry—was his graduating in medicine and attempting to practice the art of surgery. By what mental twist on the part of the poet, or by whose advice he spent a long apprenticeship with a country doctor, then walked the London hospitals and, finally, graduated with honors at Apothecaries' Hall, no biography so far published enlightens us; but that he did all this is beyond a doubt, and perhaps, if he had not opened the temporal artery ac-

cidentally during an operation, the world would have been poorer by a very good poet and somewhat richer by the addition of a second-class surgeon. But the temporal artery was responsible for his laying down the lancet and taking up the pen.

When we remember how short his life was—he died in his twenty-sixth year—we must admit that here we have another instance of misdirected enthusiasm in channels foreign to the nature of the individual. And the fact that there was no father standing over him, with threats of expulsion from home should he refuse to accede to wishes emanating from a parental narrowness, or no friend driving him, by ill-directed advice, into an uncongenial occupation, compels us to admit that with the desire for poetry quite paramount in his mind, even before he began his medical apprenticeship, he nevertheless had a judgment made up of very poor stuff; otherwise he would not have spent, what must have been to him, many wearisome years cultivating the prosiac muse of medicine. And surely in 1815 when Keats passed his final examination and was appointed dresser at Guy's Hospital, surgery had none of the fascinations of to-day.

That the knowledge of medicine was a help to Keats, he admits in a letter to Reynolds, dated May 3, 1818, where he says "every department of knowledge we see is excellent and calculated towards a great whole. I am so convinced of this that I am glad at not having given away my medical books, which I shall again look over to keep alive the little I know thitherwards;" but he also adds in the same letter, "were I to study Physic, or rather Medicine again, I feel it would not make the least difference in my poetry." That the latter utterance was true, the most careful reading of his poems will not contradict. For of all English literary men, Keats stands out as the one whose genius was not sustenanced by any currents of thought in his environment, by heredity, or by influences derived from a bias in education. The only instance in his whole career when his knowledge of medicine was an influence—and an undesired one under the circumstances—was when he coughed up some blood, a scene most graphically described by his intimate friend, Charles Armitage Brown: "I entered his chamber as he leapt into bed. On entering the cold sheets, before his head was on the pillow, he slightly coughed, and I heard him say, 'That is blood from my mouth.' I went towards him; he was examining a single drop of blood upon the sheet. 'Bring me the candle, Brown, and let me see this blood.' After regarding it steadfastly, he looked up in my face with a calmness of countenance I can never forget, and said, 'I know the color of that blood—it is arterial blood—I cannot be deceived in that color—that drop of blood is my death-warrant—I must die.'" We wonder if the poet's medical temper, and those finer sensibilities peculiar to the tuberculous, were assuaged when, later on, Dr. Clarke took eight ounces of blood from his arm—it was black and thick—after he had vomited two cupfuls!

BOOK REVIEWS.

PULMONARY TUBERCULOSIS AND ALL COMPLICATIONS. By Sherman G. Bonney, M. D., Professor of Medicine, Denver and Gross College of Medicine, Denver. Octavo of 778 pages, with 189 original illustrations, including 20 in colors and 60 X Ray photographs. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $7.00 net; half morocco, $8.50 net.

In view of the world-wide and constantly increasing interest that is taken in the struggle against tuberculosis it is natural that the literature of the subject should be an enormous one, and inevitable that the busy practitioner should find it difficult to keep abreast with the movement. There is thus very decidedly a place for a practical book like that of Prof. Bonney's, which combines a critical summary of the newest views and discoveries with an adequate presentation of general clinical and therapeutic matters. Although the book is modestly entitled, "Pulmonary Tuberculosis," it really covers pretty well the entire field of activity of the human tubercle bacillus, infections of all the various organs being taken up in turn. The concluding chapters on specific therapy are of especial interest, the author's contributions in this field being of considerable value. His results on the whole agree with those of most observers in being decidedly encouraging. He uses as his tuberculin a bacillus emulsion and has obtained good results in all stages and varieties of tuberculosis. Where there is a mixed infection, however, he precedes the use of tuberculin by a course of injections of homologous vaccines. His attitude towards the opsonic index is respectful and hospitable, but in his own work he has found it more advantageous to trust to clinical observation. The two by no means always go hand in hand. The book could be made still more useful by means of a more extensive index.

THE ELEMENTS OF THE SCIENCE OF NUTRITION. By Graham Lusk, Ph. D., M. A., F. R. S. Illustrated. W. B. Saunders Co., Philadelphia and London.

This volume is devoted to a consideration of nutrition in health and disease and presents in splendid form a thorough knowledge of metabolism. Chapters are devoted to the feces, starvation, the regulation of the body temperature, influence of proteid food, the influence of fats and carbohydrates, the influence of mechanical work, fat requirements during the period of growth, metabolism in diabetes, fever, gout, etc. A valuable table is added, showing the cost of proteid and energy. The work all in all is an excellent one and can be heartily recommended.

LECTURES TO GENERAL PRACTITIONERS ON THE DISEASES OF THE STOMACH AND INTESTINES. By Boardman Reed, M. D. Illustrated. Second Edition. E. B. Treat & Co., New York, 1907.

This work was conceived by the author with a view of including within one volume a consideration of diseases of the stomach and intestines from the standpoint of our present knowledge. While there are many excellent works in English on the stomach and the intestines, up to the time this work was written, there was no book which included both under one cover. The author has endeavored to present the newer methods in the diagnosis and treatment of the digestive system in the smallest possible space and yet omit nothing. The first half of the work is devoted to anatomic, physiologic, chemic and diagnostic data, methods of examination and methods of treatment, while the latter part, entitled "The Gastro-Intestinal Clinic," is devoted to a consideration of special diseases of the gastro-intestinal tract. A large number of illustrations have been included and a number of excellent tables.

MANUAL OF DISEASES OF THE EAR, NOSE AND THROAT. By John Johnson Kyle, B. S., M. D. Second edition, revised and enlarged with 169 illustrations. P. Blakiston's Son & Co., Philadelphia. $3.00.

Scarcely more than a year ago Kyle's 1st edition was reviewed in these columns. The appearance of a second edition in so short a time, in itself speaks for the popularity of this little work. In this edition the author has

added a chapter on tracheo-bronchoscopy, and has made a number of minor changes and additions which bring the work up to date. The efforts of the author in endeavoring to give to the student and general practitioner the essential information relative to the diseases of the ear, nose and throat, have deservedly been crowned with success.

TREATMENT OF INTERNAL DISEASES. For Physicians and Students. By Dr. Norbert Ortner, of the University of Vienna. Edited by Nathaniel Bowditch Potter, M. D., Visiting Physician to the New York City Hospital, to the French Hospital, and to the Hospital for Ruptured and Crippled; Instructor in Medicine, Columbia University. Translated by Frederic H. Bartlett, M. D., from the Fourth German Edition. J. B. Lippincott Company, Philadelphia and London.

This book is a translation of a revised fourth edition of Ortner's Lectures upon the Therapeutics of Internal Medicine. The author begins each chapter with a pathology and physiology of the disease under consideration. The noteworthy effort of basing the following treatment upon this groundwork places this book among the most commendable ones upon therapy yet published. The detailed manner in which he considers the treatment of each condition, first as a primary one, and then as a secondary complicating or sequel of other diseases, giving the indications and counter-indications of these conditions, depending upon their relative etiology, pathology, etc., of the particular clinical picture, is a marked diversion from the ordinary works on therapy. The whole work is an exhaustive study based to a large extent upon personal clinical observation. The importance of mechanical, dietetic, climatic hydrotherapeutic and other extra medicinal methods is emphasized throughout the volume. The applicability and the respective advantage, disadvantage and limitation of drugs has been brought up to date. The references in climatology hygiene and dietetics have been adapted to students and practitioners of this country. Numerous American sanatoriums for patients with tuberculosis, and American mineral waters have been tabulated and discussed. In recommending this work we believe that the author's endeavor to make medication less an affair of memory and more one of reason has been very successfully carried out.

THE BABY: ITS CARE AND DEVELOPMENT. By LeGrand Kerr, M. D., Professor of the Diseases of Children in the Brooklyn Post-Graduate Medical School. Albert T. Huntington, Brooklyn, New York, Publisher. 1908. Price, $1.00.

This little volume is designed for the use of mothers. It is a practical work, written in simple language. The chronological arrangement of the chapters enables the mother to intelligently follow the development of the child. The book is well adapted for distribution by the physician to his patients.

HYGIENE OF THE LUNG IN HEALTH AND DISEASE. By Professor Dr. Leopold von Schrotter, Director of the Third Medical Clinic of the Vienna University. Translated by H. W. Armit, M. R. C. S., L. R. C. P., with sixteen illustrations. Rebman Limited, 129 Shaftbury avenue, W. C., London; Rebman Company, 1123 Broadway, New York.

This little book deals with the anatomy, physiology and hygiene and diseases of the entire respiratory tract. In simple uninvolved language its object is to instruct the lay person on the functions of the respiratory organs and to direct the attention towards their proper development as a means of preventing diseases of this system. It gives a very creditable hygienic treatment of respiratory diseases.

DIETS IN TUBERCULOSIS, PRINCIPLES AND ECONOMICS. By Noel Dean Bardswell, M. D., M. R. C. P., F. R. S. (Edin) Medical Superintendent King Edward VII. Sanatorium, and John Ellis Chapman, M. R. C. S., L. R. C. P., Medical Superintendent Coppin's Green Sanatorium. Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E. C., London. 1908.

The reintroduction of Boding's method of treatment of tuberculosis which has produced such happy results in the last few years has caused a demand for the special treatise which this book fulfills. It is an abstract of the proceedings of the Royal Society upon the various researches recorded in the diet of tuberculosis. It deals in detail with the various problems in all types and varieties of tubercular cases. The fuller realization of this exceedingly important factor in the treatment of tuberculosis should place this work in a very enviable position in its line.

PHARMACOLOGY, THE ACTIONS AND USES OF DRUGS. By Maurice Vejux Tyrode, M. D., Instructor of Pharmacology in the Medical School of Harvard University. P. Blakiston's Son & Company, 1012 Walnut street, Philadelphia. 1908.

The author's purpose to produce a small and concise text-book, giving the essential facts of pharmacology without profound scientific discussion of the same, has been established in this work. Known facts regarding the action of drugs have been emphasized, and vague and contradictory statements regarding the same have been rejected. The brief summary of the general action, and a short statement concerning the uses and applications with a concise description of the different preparations used in medicine, makes this text a very reliable and authentic guide for the busy student and the practitioner.

HEART DISEASE AND BLOOD PRESSURE. A Practical Consideration of Theory and Treatment. By Louis Faugeres Bishop, A. M., M. D., Clinical Professor of Heart and Circulatory Diseases, Fordham University, School of Medicine, New York City; Physician to the Lincoln Hospital; Late Chairman of the Section on Medicine of the New York Academy of Medicine; Member of the New York Pathological Society; the Neurological Society; Alumni Association, St. Luke's Hospital, etc. Second Edition. E. B. Treat & Company, 241-243 West 23d street, New York. Price $1.00. 1907.

This little book is the second edition of the author's on the cardio-vascular system. It deals in detail upon the principles of blood-pressure with their consequent effects and results upon the heart and other organic systems of the body. The great value of a proper understanding of these general principles in cardio-vascular diseases especially should make this book an extremely interesting as well as most thoroughly instructive to a general profession.

TASCHENBUCH DER THERAPIE MIT BESONDERER BERUECKSICHTIGUNG DER THERAPIE DER BERLINER WIENER U. A. DEUTSCHEN KLINIKEN, herausgegeben von Dr. M. T. Schnirer, Redakteur der Klinisch-therapeutischen Wochenschrift. Vierte vermehrte und verbesserte Ausgabe. Wurzburg, A. Stuber's Verlag (C. Kabitzsch). 1908.

This compact little book is the treatment of diseases which the author has found especially commendable. Diseases arranged in alphabetical order are first considered by giving a summary of the symptoms, and then an outline of the drugs used including a number of prescriptions, which the author has found especially effective.

MEDICAL DIAGNOSIS, A MANUAL FOR STUDENTS AND PRACTITIONERS. By Charles Lyman Greene, M. D., Professor of the Theory and Practice of Medicine in the University of Minnesota; Attending Physician, St. Luke's Hospital, the City Hospital and the St. Paul Free Dispensary; Member of the Association of American Physicians, the American Medical Association, American Association for the Advancement of Science; Author of "The Examination for Life Insurance and Its Associated Clinical Methods," etc., Second Edition, Revised, with 7 colored plates and 241 illustrations. P. Blakiston's Son & Company, 1012 Walnut street, Philadelphia. 1907.

This is a small compend on diagnosis, fairly complete and accurate. Much of the text is a compilation which has not been brought up to date. Its conciseness and marginal index make it a very ready reference, but as an authentic treatise on diagnosis this book could bear a very careful revision.

LIFE INSURANCE AND GENERAL PRACTICE. By E. M. Brockbank, M. D. (Vict.) F. R. C. P., Honorary Assistant Physician, Royal Infirmary, Manchester, Lecturer in Materia Medica and Therapeutics, Victoria University of Manchester. Henry Frowde, Hodder and Stoughton, London.

This volume dealing with the question of life insurance examination as a part of general medical practice is valuable for two reasons; first, it gives the methods of making a thorough examination and eliciting important prognostic findings; and second, it contains a mass of very important statistics and references which are of value with the relative information obtained by examination, in developing prognostic ability.

KIEPE'S MATERIA MEDICA AND THERAPEUTICS. A Manual for Students and Physicians attending post-graduate courses. By Edward J. Kiepe, M. D. Lea Bros. & Co., Philadelphia and New York, 1906.

This small volume is an epitome of Materia Medica and Therapeutics intended for students of medicine. It is not intended as a complete text-book,

but a supplement to larger works. The contents are based upon the lectures of the author and present the important points in materia medica and therapeutics. At the end of each chapter are a series of questions covering the subject matter that has gone before.

HEART DISEASE AND THORACIC ANEURYSM. By F. J. Poynton, M. D., F. R. C. P., London, Assistant Physician to University College Hospital, and Physician to Out-patients, The Hospital for Sick Children, Great Ormond street, London, Late Medical Tutor and Medical Registrar to St. Mary's Hospital. Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E. C. London.

This small book is especially commendable for the accuracy of its clinical and pathological knowledge of diseases of the heart and large blood-vessels. It is finely illustrated with cuts consisting of the macro- and microscopic lesions pulse tracing, skiagrams, etc., found in almost every individual lesion. Clinical variations of these disease processes, and the adaptation of treatment to these special variations are among its many commendable points.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. By Simon Baruch, M. D., Professor of Hydrotherapy in Columbia University (College of Physicians and Surgeons), New York; Medical Director of the Hydriatric Department of the Riverside Association; Third Edition, revised and enlarged. With numerous illustrations. William Wood & Company, New York, 1908.

The present volume bears ample testimony to the superiority of methodical hydrotherapy over the slipshod, inexact mode of its application. It is intended as a guide to this form of treatment in private practice and general hospital. It is filled with very useful and practical technique, and gives a very concise discussion of the indications of hydrotherapy in all the different disease processes.

PHARMACOLOGY AND THERAPEUTICS. By Reynold Webb Wilcox, M. A., M. D., LL. D., Professor of Medicine at the New York Post-graduate Medical School and Hospital; Consulting Physician to the Nassau Hospital; Visiting Physician to St. Mark's Hospital; ex-president of the American Therapeutic Society; Fellow of the American Academy of Medicine; Member of the American Medical Association; Vice-Chairman of the Revision Committee of the United States Pharmacopea; etc. Seventh Edition, Revised, with index of symptoms and diseases. P. Blakiston's Son & Company, 1012 Walnut street, Philadelphia.

This new edition of the above work is thoroughly revised and modernized. The author's views are so well recognized and established as to need no further comment.

THE EXAMINATION OF THE FUNCTION OF THE INTESTINES BY MEANS OF THE TEST DIET. ITS APPLICATION IN MEDICAL PRACTICE AND ITS DIAGNOSTIC AND THERAPEUTIC VALUE. By Prof. Dr. Adolph Schmidt. Authorized translation from the latest German Edition. By D. Aaron, M. D. F. A. Davis Company, Philadelphia.

This volume presents in a condensed form the results of the work of Schmidt and Strassburger upon the examination of the feces following the ingestion of their test diet. The diet is one of fixed consistency, preceded and following by a small dose of carmine. The value of this work is greatly appreciated by those who feel a scientific interest in the diseases of the gastro-intestinal tract, and while there are reasons why this cannot become a routine proceedure, in hospital practice, at least, it is of great value in a study of gastro-intestinal conditions.

METABOLISM AND PRACTICAL MEDICINE. By Carl von Noorden. Anglo-American Issue under the Editorship of I. Walker Hall, M. D. Three Volumes. W. T. Keener & Co., Chicago, 1907.

A knowledge of the metabolism of the human organism has become absolutely indispensable to the careful, conscientious physician, and it is to this class that these volumes will appeal in particular. The work of von Noorden along these lines is too well known to need any recommendation. He has not relied, however, entirely upon his own research and observations, but has called upon the most prominent investigators of the problems in metabolism in Europe and America.

The first volume is devoted to the physiology of metabolism and is by Adolf Magnus-Levy. It is devoted to a review of the food stuffs, digestion and absorption, the fate of the food stuffs in the tissues and the study of metabolism in general in man. Among the interesting chapters in this volume may be mentioned those on the total energy exchange, nitrogenous metabolism, the influence of muscular work on metabolism, the influence of sexual processes, etc., the role of water, metabolism of mineral substances and metabolism in old age. There is no one more capable of writing a volume of this sort than Magnus-Levy. It is presented in a clear, concise way, and well translated by various authors.

Volumes two and three are devoted to the pathology of metabolism. Chapters are contributed by such authors as von Noorden, Kraus, Schmidt, Weintraub, Matthes, H. Strauss, Salomon, Czerny, Steinitz, Dapper, Neuberg, Loewi and Mohr. It would be impossible to call attention to all the excellent points contained within these covers.

The chapters on hunger and chronic starvation, over-feeding, diseases of the kidneys, diabetes mellitus, gout, obesity and mineral waters, are contributed by von Noorden and contain the sum and substance of all of his writings along these lines. The chapters on fever and infection, diseases of the stomach and intestines, diseases of the liver, diseases of the respiration and circulation and diseases of the blood are notably well written. At the end of each chapter is presented a complete bibliography on the subject covered. The work is a most excellent handbook and for its consummation much credit is due to von Noorden and Hall, as well as to the various collaborators.

A Study of the Causes Underlying the Origin of Human Monsters. By Franklin P. Mall, Professor of Anatomy, Johns Hopkins University, Baltimore, Md. Published by the Wistar Institute of Anatomy and Biology. Philadelphia, 1908.

This volume is the outcome of a study of 163 pathologic human embryos, collected during the past fifteen years. While two previous contributions of the author to this subject were chiefly of an anatomic nature, the present contribution, as the title states, is devoted to a consideration of the etiology of the development of monsters. In the author's belief, his studies have established beyond doubt at least the following two facts: (1). The identity of pathologic embryos and small monsters, i. e., many of them would have developed into real monsters if they had not been aborted; and (2), that all monsters develop from normal ova, due to external influences—in man, to a condition which Mall terms faulty implantation. These external conditions affect the nutrition of the embryo; but there are present in every ovum properties which may cause it to develop into a monster. This has been fully demonstrated by experiments upon a variety of vertebrates, as well as by all the pathologic ova in Mall's possession, especially those obtained from tubal pregnancies.

It would be impossible here to point out adequately the enormous amount of information and scientific investigation embodied in this volume. But our interest and zeal to make the profession acquainted with this product of American scientific research, will be obvious from the following quotation from the author's introductory remarks: "It may be noted here that the obstetricians and gynecologists of America, as a class, advocate strongly the theory of maternal impressions, due largely, no doubt, to their insufficient scientific education. On the other hand, we may pride ourselves over the masterful strokes of American teratologists against this theory; the experimental teratologists have produced double monsters, spina bifida, and cyclopia, under the very noses of these practitioners, but they continue their futile speculations over mere coincidences."

Die Koerperpflege der Frau. Von Dr. C. H. Stratz. Verlag von Ferdinand Enke in Stuttgart.

We possess from the pen of Stratz a series of the most interesting books dealing with the form of the body of woman, its variations under the influence of race, dress and age. It is obvious that disease is another factor of first importance in changing the normal configuration of the various portions of the body. Considering the normal body only, pathologic change as a rule will mean disfigurement, and in this sense prevention of disease for the woman is equivalent, or at least necessary, to the preservation of beauty.

The proper care of the body of woman is identical with proper physiologic and esthetic dietetics. It is the purpose of this fascinating book to point out to physician and layman rational hygienic procedures during the various

stages of life, especially as demanded by menstruation, pregnancy, labor and the puerperium, and, last but not least, by the strict but ever changing laws of mode and style.

The author's captivating language, and his well-known artistic taste in the selection of illustrations, are adequately exemplified in this latest contribution, offering a wealth of valuable information and advice to every thinking physician.

HANDBUCH DER GEBURTSHILFE. Herausgegeben von F. von Winckel, in Muenchen. Verlag von J. F. Bergmann, in Wiesbaden.

The third part of the second volume of this most exhaustive work on obstetrics deals with the pathology and therapy of labor, not including obstetric operations (to which a special volume has been devoted already described in these pages). In the customary manner the subject is divided into the obstructions offered by the fetus, and those caused by the mother. The first group includes the anomalies of the cord and the ovisac; anomalous positions and presentations, malformations of the fetus, presence of more than one child; there is also added a chapter on the death of the fetus during labor. The presentation of the obstacles of the second group begins with a very exhaustive treatise on pelvic deformities, occupying more than 200 pages of this volume; this is followed by the consideration of the anomalies of the expulsive powers. The volume, furthermore, contains chapters on anomalies of the third stage of labor, on the influence of non-sexual diseases upon labor, and concludes with an essay entitled: General diseases and the death of the parturient woman.

Among the contributors to this volume we find the usual list of the best known German representatives of scientific obstetrics.

GYNECOLOGY AND ABDOMINAL SURGERY.—In two large octavos. Edited by Howard A. Kelly, M. D., Professor of Gynecologic Surgery at Johns Hopkins University; and Charles P. Noble, M. D., Clinical Professor of Gynecology at the Woman's Medical College, Philadelphia. Large octavo volumes. Original illustrations by Mr. Hermann Becker and Mr. Max Brodel. Philadelphia and London: W. B. Saunders Company. 1908. Per volume, cloth, $8.00 net; half morocco, $9.50 net.

In the last sentence of the preface of this work, its two distinguished editors express the hope that the work will be considered unique in its presentation and its claims upon the consideration of the profession. This work is unique in many aspects. For the first time here an attempt is made to cover both the fields of gynecology and abdominal surgery in one book. Thus it is the expression of the modern tendency of the American gynecologist to consider the diaphragm and the pelvic floor the natural boundaries for his operative field, of course, including the breasts. It may seem questionable whether this expansion is justifiable or even desirable, but once for ever these volumes seem to dispell any doubt that the presentation of these two subjects, undeniably related to each other, in one work is feasible and of a distinct practical value.

Space does not permit to enter here into a critical review or even to enumerate the many subjects considered in the 1700 pages of these two volumes, but this one fact is obvious, Kelly and Noble have shown rare skill in the selection of their collaborators and in the manner in which they have assigned to each a subject on which he is a recognized authority. Some chapters represent the completest and best illustrated essays extant on their respective subjects and among them special mention must be made of the chapter dealing with the pathology of the reproductive organs, or e. g., of Chapter XXI, entitled, "Radical Abdominal Hysterectomy for Cancer of the Uterus." These chapters also prove the advantage of good illustrations, and in this respect Kelly and Noble's new work undeniably stands far above anything ever attempted in a text-book.

This new contribution to medical literature demands the consideration of the whole profession. Its interest to the strict gynecologist, to the so-called abdominal surgeon and to the general surgeon is obvious, but that its editors have not neglected the needs of the general practitioner is proved by a chapter like that entitled, "Medical Gynecology," which, in 128 pages, thoroughly covers the non-operative therapy of gynecologic diseases.

PROGRESSIVE MEDICINE, Vol. III, September, 1908. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia.

Octavo, 285 pages, with 30 engravings. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Lea & Febiger, Publishers, Philadelphia and New York.

The September volume deals with the following four subjects: Diseases of the Thorax and Its Viscera, by Ewart, with a summary of all the recent advances in our knowledge of tuberculosis; Dermatology and Syphilis, by Gottheil; Obstetrics, by Davis, and, concluding the volume, Nervous Diseases, by Spiller.

Progressive Medicine performs for the general practitioner and also for the specialist the very important service of bringing information which could not otherwise be obtained.

Introduction a l'Etude Clinique et la Pratique des Accouchements.—Par le Professeur L. H. Farabeuf et le Docteur H. Varnier. 375 Figures. Nouvelle Edition, revue et augmentée. Paris: Georges Steinheil, Editeurs. 1908. Prix: 15 Francs.

This well-known work has appeared in a new revised edition. As heretofore it is limited to the anatomy of the pelvis, the presentations, the mechanism of labor, and the following three obstetric operations: Extraction, version and forceps.

The numerous diagramatic illustrations of this volume are of such unusual clearness and precision that the exact meaning of the text easily can be appreciated also by the reader who is not thoroughly familiar with the French language.

Auscultation and Percussion; Together with the Other Methods of Physical Examination of the Chest. By Samuel Gee, M. D. Fifth Edition. Oxford Medical Publications. London: Henry Froude, Oxford University Press; Hodder & Stoughton, Warwick Square, 1907.

Dr. Gee always writes so engagingly and at the same time with such lucidity that his books are very pleasant reading. Moreover, drawing as he does upon a rich fund of personal experience, what he has to say is well worth attending to, even when, as in the present case, he makes no attempt at presenting the subject with German exhaustiveness. A point upon which he lays particular stress is the loose nomenclature which he believes has hitherto been the bane of books on physical diagnosis and which he makes a special effort to correct.

A Study of the Human Blood Vessels in Health and Disease. By Arthur V. Meigs. Philadelphia and London: J. B. Lippincott Co.

The book of Meigs is a most important volume, particularly because of the very large number of observations made for it with the special object of establishing the value of many anatomic points hitherto neglected, not so much in regard to the arterial system as for the veins and capillaries. The chief object of the author is apparently to ascertain the changes that occur in vascular structures under normal or pathologic conditions. While similar studies have been presented by investigators in our own country and in Germany, they have been confined to a limited number of the blood vessels. Meigs has extended his investigations to cover the entire vascular system and his interpretations of the findings are accompanied by numerous beautiful illustrations. The volume is therefore a source of valuable information in the study of the physiologic and pathologic alterations that occur in the circulatory system. It is objective in its assertions and opinions for the reason that not only is the morphology of these structures considered, but also the changes in their functional and biologic relations. This latter feature makes the book very interesting reading, although the author in many instances disregards the results that exact physical investigations of the circulatory organs have brought out. The book must be read with a critical spirit.

Saunders' Pocket Medical Formulary. By William M. Powell, M. D., author of "Essentials of Diseases of Children;" Member of Philadelphia Pathologic Society. Containing 1831 formulas from the best known authorities. With an appendix containing Posologic Tables, Formulas and Doses for Hypodermic Medication, Poisons and their Antidotes, Diameters of the Female Pelvis and Fetal Head, Obstetric Table, Diet-lists, Materials and Drugs used in Antiseptic Surgery, Treatment of Asphyxia from Drowning, Surgical Remembrancer, Tables of Incompatibles, Eruptive Fevers, etc., etc. *Eighth Edition, Adapted to the New (1905) Pharmacopeia.* Philadelphia and London: W. B. Saunders Company, 1906. In flexible morocco, with side index, wallet and flap. $1.75 net.